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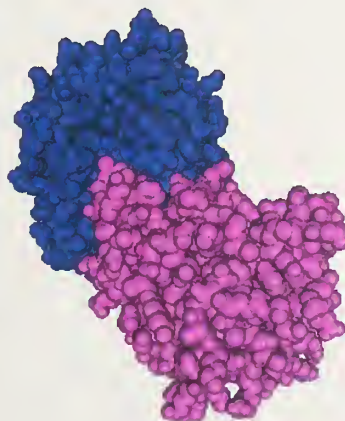
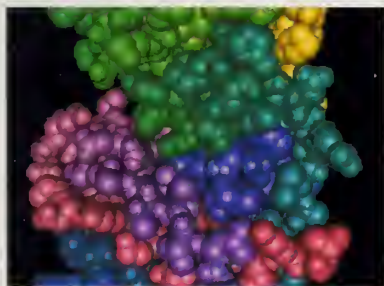
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Bibliography of NIST Biosystems and Health Publications 2001-2005

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INTRODUCTION

This document contains a listing of over 1000 journal articles and conference papers written by National Institute of Standards and Technology (NIST) scientists working in the area of measurements and standards for Biosystems and Health. This includes: biochemistry, biophysics, molecular biology, nuclear radiology, biomaterials, biomedical engineering, cell biology, biotechnology, and several others. The list was compiled using the MEDLINE, Web of Science, and IEEE Xplore databases as well as CSA Materials Research Database with METADEX.

The Information Services Division (ISD) worked with the Biosystems and Health Strategic Working Group (SWG) to develop a comprehensive list of search terms in order to develop this list. The SWG is comprised of representatives from across NIST's varied and multidisciplinary research staff. Search terms were entered into the four databases, and search results from each database were then combined into one central document by means of citation management software.

While this database is comprehensive, it is far from complete. The following qualifications apply:

- The timeframe is limited to research published in 2001-2005. Ongoing research projects may still have significant accomplishments that will not be reported until 2006 or beyond.
- The selected search terms do not cover the entirety of bio-related research efforts being conducted at NIST. As a result, there are several publications not included in this list.

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**Bibliography of NIST Biosystems and Health Publications,
2001-2005**

- Abdulaev NG. 2003. "Building a stage for interhelical play in rhodopsin." *Trends in Biochemical Sciences* 28 (8): 399-402.
- Abylkassimova Z, Land C, Hartshome M, Crooks L, Luckyanov N, Bouville A, Simon S, Weinstock B, Romanyukha A, Fillmore CM, Gusev B, Zhumadilov Z, Chaizhunusova N. 2001. "Fallout exposure in Kazakhstan and thyroid disease prevalence." *Epidemiology* 12 (4): S83.
- Akbasak BS, Budowle B, Reeder DJ, Redman J, Kline MC. 2001. "Turkish population data with the CODIS multiplex short tandem repeat loci." *Forensic Science International* 123 (2-3): 227-229.
- Akerman B, Cole KD. 2002. "Electrophoretic capture of circular DNA in gels." *Electrophoresis* 23 (16): 2549-2561.
- Akers DL, Goldberg RN. 2001. "BioEqCalc: A package for performing equilibrium calculations on biochemical reactions." *The Mathematica Journal* 8: 86-113.
- Alfassi ZB, Huie RE, Milman BL, Neta P. 2003. "Electrospray ionization mass spectrometry of ionic liquids and determination of their solubility in water." *Analytical and Bioanalytical Chemistry* 377 (1): 159-164.
- Ambjörnsson T, Apell S., Konkoli ., DiMarzio E, Kasianowicz JJ. 2002. "Charged polymer membrane translocation." *The Journal of Chemical Physics* 117: 4063-4073.
- Ames JB, Hamasaki N, Molchanova T. 2002. "Structure and calcium-binding studies of a recoverin mutant (E85Q) in an allosteric intermediate state." *Biochemistry* 41 (18): 5776-5787.
- Ames JB, Ikura M. 2002. "Structure and membrane-targeting mechanism of retinal Ca²⁺-binding proteins, recoverin and GCAP-2." *Advances in Experimental Medicine and Biology* 514: 333-348.
- Ames JB, Vyas V, Lusin JD, Mariuzza R. 2005. "NMR structure of the natural killer cell receptor 2B4 (CD244): implications for ligand recognition." *Biochemistry* 44 (17): 6416-6423.
- Amos MD, Bridges AJ. 2005. "Standards for autoantibody testing; Addressing future needs for autoimmune disease and cancer diagnosis." *Cancer Biomarkers* 1: 224-227.
- Andersen O, Schwarz FP, Eisenstein E, Jacobsen C, Moestrup SK, Etzerodt M, Thogersen HC. 2001. "Dominant thermodynamic role of the third independent receptor binding site in the receptor-associated protein RAP" *Biochemistry* 40: 15408-15417.
- Anderson NA, Lian T. 2005. "Ultrafast electron transfer at the molecule-semiconductor nanoparticle interface." *Annual Review of Physical Chemistry* 56: 491-519.

- Anderson SJ, Barker PE, Hadfield MG. 2002. "Cytonection expression in Alzheimer disease." *Journal of Neuropathology and Experimental Neurology* 61 (3): 230-236.
- Antonucci JM, Fowler BO, Dickens SH. 2002. "Interaction of a silane coupling agent with dental monomers." *Journal of Dental Research* 81: A140.
- Anderson S J, Goley EM, Barker PE, Camphausen K. 2004. "Microarray analysis of gliosarcoma tissue." *CheckSample Clinical Chemistry* 44 (5): 51-61.
- Antonucci JM, Skrtic D. 2005. "Matrix resin effects on selected physicochemical properties of amorphous calcium phosphate composites." *Journal of Bioactive and Compatible Polymers* 20 (1): 29-49.
- Atha DH, Kasprzak W, O'Connell CD, Shapiro BA. 2001. "Prediction of DNA single-strand conformation polymorphism: analysis by capillary electrophoresis and computerized DNA modeling." *Nucleic Acids Research* 29 (22): 4643-4653.
- Atha DH, Miller K, Sanow AD, Xu J, Hess JL, Wu OC, Wang W, Srivastava S, Highsmith WE. 2002. "High-throughput TRAP/PCR analysis of telomerase using capillary electrophoresis." *American Journal of Human Genetics* 71 (4): 230.
- Atha DH, Miller K, Sanow AD, Xu J, Hess JL, Wu OC, Wang W, Srivastava S, Highsmith WE. 2003. "High-throughput analysis of telomerase by capillary electrophoresis." *Electrophoresis* 24 (1-2): 109-114.
- Aumentado J, Keller MW, Martinis JM, Devoret MH. 2004. "Nonequilibrium quasiparticles and 2e periodicity in single-Cooper-pair transistors." *Physical Review Letters* 92 (6): 066802.
- Babushok VI, Tsang W. 2003. "Gas-phase mechanism for dioxin formation." *Chemosphere* 51 (10): 1023-1029.
- Babushok VI, Linstrom PJ. 2004. "On the relationship between Kovats and Lee retention indices." *Chromatographia* 60 (11-12): 725-728.
- Bacolla A, Jaworski A, Connors TD, Larson JE, Jakupciak JP, O'Connell C, Wells RD. 2002. "PKD1 unusual DNA conformations are recognized by nucleotide excision repair." *The FASEB Journal* 16 (4): A532.
- Bailey LO, Washburn NR, Simon CG, Chan ES, Wang FW. 2004. "Quantification of inflammatory cellular responses using real-time polymerase chain reaction." *Journal of Biomedical Materials Research Part A* 69A (2): 305-313.
- Bailey LO, Washburn NR, Wang FW. 2004. "Quantification of inflammatory responses using real-time PCR." *Molecular Biology of the Cell* 15: 375A.
- Bailey LO, Lippiatt S, Biancanello FS, Ridder SD, Washburn NR. 2005. "The quantification of cellular viability and inflammatory response to stainless steel alloys." *Biomaterials* 26 (26): 5296-5302.

Baker-Jarvis J, Kabos P. 2001. "Dynamic constitutive relations for polarization and magnetization." *Physical Review. E, Statistical, Nonlinear, and Soft Matter Physics* 64 (5 Pt 2): 056127.

Baker-Jarvis J, Kabos P, Holloway CL. 2004. "Nonequilibrium electromagnetics: Local and macroscopic fields and constitutive relationships." *Physical Review. E, Statistical, Nonlinear, and Soft Matter Physics* 70 (3 Pt 2): 036615.

Baker-Jarvis J. 2005. "Time-dependent entropy evolution in microscopic and macroscopic electromagnetic relaxation." *Physical Review. E, Statistical, Nonlinear, and Soft Matter Physics* 72 (6 Pt 2): 066613.

Baker SC, Bauer SR, Beyer RP, Brenton JD, Bromley B, Burrill J, Causton H, Conley MP, Elespuru R, Fero M, Foy C, Fuscoe J, Gao XL, Gerhold DL, Gilles P, Goodsaid F, Guo X, Hackett J, Hockett RD, Ikonomi P, Irizarry RA, Kawasaki ES, Kaysser-Kranich T, Kerr K, Kiser G, Koch WH, Lee KY, Liu CM, Liu ZL, Lucas A, Manohar CF, Miyada G, Modrusan Z, Parkes H, Puri RK, Reid L, Ryder TB, Salit M, Samaha RR, Scherf U, Sendera TJ, Setterquist RA, Shi LM, Shippy R, Soriano JV, Wagar EA, Warrington JA, Williams M, Wilmer F, Wilson M, Wolber PK, Wu XN, Zadro R. 2005. "The external RNA controls consortium: a progress report." *Nature Methods* 2 (10): 731-734.

Ballou S, Goodpaster J, MacCrehan W, Reeder D. 2003. "Forensic analysis." *Analytical and Bioanalytical Chemistry* 376 (8): 1149-1150.

Balss KM, Ross D, Begley H, Olsen HG, Tarlov MJ. 2004. "DNA hybridization assays using temperature gradient focusing and peptide nucleic acids." *Journal of the American Chemical Society* 126: 134746-13479.

Balss KM, Ross D, Tarlov MJ. 2003. "Temperature gradient focusing of matched and partially mismatched DNA/PNA hybridizations." *Micro Total Analysis Systems 2003 Proceedings of the mTas 2003 Symposium*: 1141-1144.

Balss KM, Vreeland WN, Phinney KW, Ross DJ. 2004. "Resolution optimization with chiral temperature gradient focusing." *Proceedings Micro Total Analysis Systems 2004 Proceedings of the mTas 2004 Symposium* 661-663.

Balss KM, Vreeland WN, Phinney KW, and Ross DJ. 2004 "Simultaneous concentration and separation of enantiomers with chiral temperature gradient focusing." *Analytical Chemistry* 76: 7243-7249.

Bardo AM, DeJong ES, Goldner LS, Marino JP, Heinz WF, Weston KD. 2002. "Spectroscopic rulers: Distance and dynamics of RNA binding using single molecule FRET." *Biophysical Journal* 82 (1): 49A.

Bardo AM, DeJong ES, Yim PB, Marino JP, Goldner LS. 2003. "Rotational dynamics of surface tethered RNA via single molecule polarization modulation microscopy." *Biophysical Journal* 84 (2): 300A.

Barker PE. 2002. "Cell and DNA standards for medical genetics laboratories." *Journal of Association of Genetic Technologists* 28(2): 47-49.

Barker PE, Pinsky P, Wang W, Srivastava S, Hocker D, Wu X, Spitz MR. 2002. "Estimates of consensus in cell selection and scoring of FISH data." *American Journal of Human Genetics* 71 (4): 222.

Barker PE, Watson MS, Ticehurst JR, Colbert JC, O'Connell CD. 2002. "NIST physical standards for DNA-based medical testing." *Journal of Clinical Laboratory Analysis* 16 (1): 5-10.

Barker PE. 2003. "Cancer biomarker validation: standards and process: roles for the National Institute of Standards and Technology (NIST)." *Annals of the New York Academy of Sciences* 983: 142-150.

Barker PE, Wang W, Wagner PD, Pinsky P. 2004. "Inter-rater agreement on chromosome 5 breakage in FISH-based mutagen sensitivity assays (MSAs)." *Mutation Research-Genetic Toxicology and Environmental Mutagenesis* 562 (1-2): 133-142.

Barrett MD, Chiaverini J, Schaetz T, Britton J, Itano WM, Jost JD, Knill E, Langer C, Leibfried D, Ozeri R, Wineland DJ. 2004. "Deterministic quantum teleportation of atomic qubits." *Nature* 429 (6993): 737-739.

Bartels A, Diddams SA, Ramond TM, Hollberg L. 2003. "Mode-locked laser pulse trains with subfemtosecond timing jitter synchronized to an optical reference oscillator." *Optics Letters* 28 (8): 663-665.

Bartels A, Newbury NR, Thomann I, Hollberg L, Diddams SA. 2004. "Broadband phase-coherent optical frequency synthesis with actively linked Ti:sapphire and Cr:forsterite femtosecond lasers." *Optics Letters* 29 (4): 403-405.

Bartels A, Oates CW, Hollberg L, Diddams SA. 2004. "Stabilization of femtosecond laser frequency combs with subhertz residual linewidths." *Optics Letters* 29 (10): 1081-1083.

Batinic-Haberle I, Okado-Matsumoto A, Spasojevic I, Hambright P, Stevens RD, Neta P, Fridovich T. 2003. "Recent advances in the synthesis and characterization of MN water-soluble porphyrin-based catalytic antioxidants." *Free Radical Biology and Medicine* 35: S17-S18.

Batinic-Haberle I, Spasojevic I, Stevens RD, Hambright P, Neta P, Okado-Matsumoto A, Fridovich I. 2004. "Improving bioavailability of SOD mimics." *Free Radical Biology and Medicine* 37: S19-S20.

Bauer BJ, Byrd HC, Guttman CM. 2002. "Small angle neutron scattering measurements of synthetic polymer dispersions in matrix-assisted laser desorption/ionization matrixes." *Rapid Communications in Mass Spectrometry* 16 (15): 1494-1500.

Bauer BJ, Guttman CM, Liu DW, Blair WR. 2002. "Tri-alpha-naphthylbenzene as a crystalline or glassy matrix for matrix-assisted laser desorption/ionization: a model system for the study of effects of dispersion of polymer samples at a molecular level." *Rapid Communications in Mass Spectrometry* 16 (12): 1192-1198.

Becker ML, Bailey LO, Wooley KL. 2004. "Peptide-derivatized shell-cross-linked nanoparticles. 2. Biocompatibility evaluation." *Bioconjugate Chemistry* 15 (4): 710-717.

Becker ML, Gallant ND, Henderson LA, Amis EJ. 2005. "Bioactive Surface Gradients to Control Cell Adhesion." *American Chemical Society National Meeting, Polymer Preprint*.

Bedner M, MacCrehan WA, Helz GR. 2002. "Improving the recoveries of unstable N-chloramines determined by liquid chromatography-postcolumn electrochemical detection." *Journal of Chromatographic Science* 40 (8): 447-455.

Becker PR, Pugh RS, Schantz MM, Mackey EA, Demiralp R, Epstein MS, Donais MK, Porter BJ, Wise SA, and Mahoney BA. 2001. "Persistent chlorinated compounds and elements in tissues of Cook Inlet beluga whales, *Delphinapterus leucas*, banked by the Alaska Marine Mammal Tissue Archival Project." *NISTIR* 6702.

Beers KL, Xu C, Wu T, Fasolka, M J. 2005. "Intelligent design of combinatorial polymer surfaces using surface grafting and patterning." *Polymer Preprints*, 46(1).

Belzer B. 2005. "National Laboratory Accreditation Program - NIST." *Health Physics* 89 (1): S57-S58.

Ben-Kish A, DeMarco B, Meyer V, Rowe M, Britton J, Itano WM, Jelenkovic BM, Langer C, Leibfried D, Rosenband T, Wineland DJ. 2003. "Experimental demonstration of a technique to generate arbitrary quantum superposition states of a harmonically bound spin-1/2 particle." *Physical Review Letters* 90 (3): 037902.

Benight AS, Pancoska P, Owczarzy R, Vallone PM, Nesetrl J, Riccelli PV. 2001. "Calculating sequence-dependent melting stability of duplex DNA oligomers and multiplex sequence analysis by graphs." *Methods in Enzymology* 340: 165-192.

Benner BA, Goodpaster JV, DeGrasse JA, Tully LA, Levin BC. 2003. "Characterization of surface organic components of human hair by on-line supercritical fluid extraction-gas chromatography/mass spectrometry: A feasibility study and comparison with human identification using mitochondrial DNA sequences." *Journal of Forensic Sciences* 48 (3): 554-563.

Berman HM, Battistuz T, Bhat TN, Bluhm WF, Bourne PE, Burkhardt K, Iype L, Jain S, Fagan P, Marvin J, Padilla D, Ravichandran V, Schneider B, Thanki N, Weissig H, Westbrook JD, Zardecki C. 2002. "The Protein Data Bank." *Acta Crystallographica Section D-Biological Crystallography* 58: 899-907.

Bernacki SH, Beck JC, Stankovic AK, Laurina LO, Amos J, Snow-Bailey K, Farkas DH, Friez MJ, Hantash FM, Matteson KJ, Monaghan MG, Muralidharan K, Pratt VM, Prior TW, Richie KL, Levin BC, Rohlfis EM, Schaefer FV, Shrimpton AE, Spector EB, Stolle CA, Strom CM, Thibodeau SN, Cole EC, Goodman BK, Stenzel TT. 2005. "Genetically characterized positive control cell lines derived from residual clinical blood samples." *Clinical Chemistry* 51 (11): 2013-2024.

Bezabeh DZ, Bamford HA, Schantz MM, Wise SA. 2003. "Determination of nitrated polycyclic aromatic hydrocarbons in diesel particulate-related standard reference materials by using gas chromatography/mass spectrometry with negative ion chemical ionization." *Analytical and Bioanalytical Chemistry* 375 (5): 381-388.

Bezrukov SM, Kasianowicz JJ. 2001. "Neutral polymers in the nanopores of alamethicin and alpha-hemolysin." *Biologicheskie Membrany* 18 (6): 453-457.

Bezrukov, SM, Kasianowicz JJ. 2002. "Dynamic partitioning of neutral polymers into a single ion channel." NATO Advanced Research Workshop. *Structure and Dynamics of Confined Polymers*. Kasianowicz JJ, Kellermayer MSZ, Deamer DW (eds.): 117-130.

Bhat TN. 2005. "Migration from static to dynamic web interface- enzyme thermodynamics database as an example." *Proceedings of The 9th World Multi-Conference on Systemics, Cybernetics and Informatics*. Orlando, FL. 1:69-74.

Bhat TN, Bourne P, Feng ZK, Gilliland G, Jain S, Ravichandran V, Schneider B, Schneider K, Thanki N, Weissig H, Westbrook J, Berman HM. 2001. "The PDB data uniformity project." *Nucleic Acids Research* 29 (1): 214-218.

Bhat TN, Tewari YB, Rodriguez H, Goldberg RN. 2005. "HIV structural and biothermodynamics databases: a resource for the pharmaceutical and biotechnology industry." *Computational Systems Bioinformatics Conference, 2005 Workshops and Poster Abstracts IEEE* : 39-40.

Birincioglu M, Jaruga P, Chowdhury G, Rodriguez H, Dizdaroglu M and Gates KS. 2003. "Mechanisms of DNA base damage by the antitumor agent 3-amino-1,2,4-benzotriazine 1,4-dioxide (tirapazamine)." *Journal of the American Chemical Society* 125: 11607-11615.

Bock C, Carnahan L, Fenves S, Gruninger M, Kashyap V, Lide B, Nell J, Raman R, Sriram RD. 2005. Healthcare strategic focus area: clinical informatics, *NISTIR* 7263.

Boerio-Goates JA, Francis MR, Goldberg RN, Ribeiro da Silva MAV, Ribeiro da Silva MDMC, Tewari YB. 2001. "Thermochemistry of adenosine," *Journal of Chemical Thermodynamics* 33: 929-947.

Boerio-Goates JA, Hopkins SD, Monteiro RAR, Ribeiro da Silva MDMC, Ribeiro da Silva MAV, Goldberg RN. 2005. "Thermochemistry of inosine." *The Journal of Chemical Thermodynamics* 37: 1239-1249.

Bonn D, Ross D. 2001. "Wetting transitions." *Reports on Progress in Physics* 64: 1085-1163.

- Bonn D, Ross D, Bertrand E, Ragil K, Shahidzadeh N, Broseta D, Meunier J. 2002. "Wetting transitions." *Physica A* 306: 279-286.
- Boukari H, Sackett D, Nossal R, Krueger S, Chernomordik V. 2003. "Probing the stability of drug-induced tubulin polymers." *Biophysical Journal* 84 (2): 114A.
- Brazhnik KP, Vreeland WN, Forry S, Kishore R, Reiner J, Helmerson K, Locascio LE. 2005. "Biomimetic nanotubes in microfluidic devices." *Biophysical Journal* 88 (1): 5A.
- Briggman KA, Richter LJ, Stephenson JC. 2002. "In situ optical studies of biomimetic systems." *Biophysical Journal* 82 (1): 39A.
- Briggman KA, Richter LJ, Stephenson JC. 2003. "In situ nonlinear optical spectroscopy: Applications in biology." *Biophysical Journal* 84 (2): 4A.
- Brown Thomas J, Kline MC, Gill LM, Yen JH, Duewer DL, Sniegowski LT, Sharpless KE. 2001. "Preparation and value assignment of Standard Reference Material 968c Fat-Soluble Vitamins, Carotenoids, and Cholesterol in Human Serum." *Clinica Chimica Acta; International Journal of Clinical Chemistry* 305 (1-2): 141-155.
- Brown Thomas JM, Yen JH, Schantz MM, Porter BJ, and Sharpless KE. 2004 "Determination of caffeine, theobromine, and theophylline in Standard Reference Material 2384 Baking Chocolate using reversed-phase liquid chromatography." *Journal of Agricultural and Food Chemistry* 52: 3259-3263.
- Broz ME, VanderHart DL, Washburn NR. 2003. "Structure and mechanical properties of poly(D,L-lactic acid)/poly(epsilon-caprolactone) blends." *Biomaterials* 24 (23): 4181-4190.
- Bruno TJ, Lewandowska A, Tsvetkov F, Miller KE, Hanley HJ. 2002. "Wall-coated open-tubular column chromatography on an organo-clay stationary phase." *Journal of Chromatography A* 973 (1-2): 143-149.
- Bryant GW, Jaskolski W. 2005. "Surface effects on capped and uncapped nanocrystals." *The Journal of Physical Chemistry. B, Condensed Matter, Materials, Surfaces, Interfaces & Biophysical* 109 (42): 19650-19656.
- Bu Z, Cook J, Callaway DJ. 2001. "Dynamic regimes and correlated structural dynamics in native and denatured alpha-lactalbumin." *Journal of Molecular Biology* 312 (4): 865-873.
- Bu ZM, Neumann DA, Lee SH, Brown CM, Engelman DM, Han C. 2001. "Dynamics changes in the molten globule to native folding studied by quasielastic neutron scattering." *Biophysical Journal* 80 (1): 340A-341A.
- Bullard JW. 2004. "Stability of voids formed in cavities at liquid-solid interfaces." *Journal of Colloid and Interface Science* 276 (1): 188-196.

- Bunk D. 2005. "Development of a reference method for serum C-reactive protein using tandem mass spectrometry." *Clinical Chemistry* 51: A97.
- Burgess I, Li M, Horswell SL, Szymanski G, Lipkowski J, Majewski J, Satija S. 2004. "Electric field-driven transformations of a supported model biological membrane - An electrochemical and neutron reflectivity study." *Biophysical Journal* 86 (3): 1763-1776.
- Burgess I, Li M, Horswell SL, Szymanski G, Lipkowski J, Satija S, Majewski J. 2005. "Influence of the electric field on a bio-mimetic film supported on a gold electrode." *Colloids and Surfaces B-Biointerfaces* 40 (3-4): 117-122.
- Burgess S, Jaruga P, Dodson ML, Dizdaroglu M, Lloyd RS. 2002. "Determination of active site residues in Escherichia coli endonuclease VIII." *Journal of Biological Chemistry* 277 (4): 2938-2944.
- Burguera EF, Guitian F, Chow LC. 2004. "A water setting tetracalcium phosphate-dicalcium phosphate dihydrate cement." *Journal of Biomedical Materials Research Part A* 71A (2): 275-282.
- Burguera EF, Xu HHK, Takagi S, Chow LC. 2005. "High early strength calcium phosphate bone cement: Effects of dicalcium phosphate dihydrate and absorbable fibers." *Journal of Biomedical Materials Research Part A* 75A (4): 966-975.
- Burnett JH, Gupta R, Griesmann U. 2002. "Absolute refractive indices and thermal coefficients of CaF₂, SrF₂, BaF₂, and LiF near 157 nm." *Applied Optics* 41 (13): 2508-2513.
- Butler JM, Devaney JM, Marino MA, Vallone PM. 2001. "Quality control of PCR primers used in multiplex STR amplification reactions." *Forensic Science International* 119 (1): 87-96.
- Butler JM, Ruitberg CM, Vallone PM. 2001. "Capillary electrophoresis as a tool for optimization of multiplex PCR reactions." *Fresenius' Journal of Analytical Chemistry* 369 (3-4): 200-205.
- Butler JM, Coble MD, Letmanyi I, Parsons TJ, Vallone PM. 2002. "Multiplex detection of 10 SNPs located in the coding region of the mitochondrial genome." *American Journal of Human Genetics* 71 (4): 406.
- Butler JM, Schoske R, Vallone PM, Kline MC, Redd AJ, Hammer MF. 2002. "A novel multiplex for simultaneous amplification of 20 Y chromosome STR markers." *Forensic Science International* 129 (1): 10-24.
- Butler JM, Schoske R, Vallone PM, Redman JW, Kline MC. 2003. "Allele frequencies for 15 autosomal STR loci on US caucasian, African American, and Hispanic populations." *Journal of Forensic Sciences* 48 (4): 908-911.
- Butler JM, Shen Y, McCord BR. 2003. "The development of reduced size STR amplicons as tools for analysis of degraded DNA." *Journal of Forensic Sciences* 48 (5): 1054-1064.

- Butler JM, Buel E, Crivellente F, McCord BR. 2004. "Forensic DNA typing by capillary electrophoresis using the ABI Prism 310 and 3100 genetic analyzers for STR analysis." *Electrophoresis* 25 (10-11): 1397-1412.
- Butler JM, Schoske R. 2004. "Duplication of DYS19 flanking regions in other parts of the Y chromosome." *International Journal of Legal Medicine* 118 (3): 178-183.
- Butler JM, Appleby JE, Duewer DL. 2005. "Locus-specific brackets for reliable typing of Y-chromosome short tandem repeat markers." *Electrophoresis* 26 (13): 2583-2590.
- Butler JM, Decker AE, Kline MC, Vallone PM. 2005. "Chromosomal duplications along the Y-chromosome and their potential impact on Y-STR interpretation." *Journal of Forensic Sciences* 50 (4): 853-859.
- Butler JM, Schoske R. 2005. "US population data for the multi-copy Y-STR locus DYS464." *Journal of Forensic Sciences* 50 (4): 975-977.
- Byrd HC, Guttman CM, Ridge DP. 2003. "Molecular mass determination of saturated hydrocarbons: reactivity of eta⁵-cyclopentadienylcobalt ion (CpCo⁺) and linear alkanes up to C-30." *Journal of the American Society for Mass Spectrometry* 14 (1): 51-57.
- Byrnes WM, Vilker VL. 2004. "Extrinsic factors potassium chloride and glycerol induce thermostability in recombinant anthranilate synthase from *Archaeoglobus fulgidus*." *Extremophiles* 8 (6): 455-462.
- Cabral JT, Hudson SD, Harrison C, Douglas JF. 2004. "Frontal photopolymerization for microfluidic applications." *Langmuir* 20 (23): 10020-10029.
- Caliskan G, Hyeon C, Perez-Salas U, Briber RM, Woodson SA, Thirumalai D. 2005. "Persistence length changes dramatically as RNA folds." *Physical Review Letters* 95: 268303.
- Caliskan G, Mechtani D, Roh JH, Kisliuk A, Sokolov AP, Azzam S, Cicerone MT, Lin-Gibson S, Peral I. 2004. "Protein and solvent dynamics: how strongly are they coupled?" *Journal of Chemical Physics* 121: 1978-1983.
- Carey CM, Spencer M, Gove RJ, Eichmiller FC. 2003. "Fluoride release from a resin-modified glass-ionomer cement in a continuous-flow system: Effect of pH." *Journal of Dental Research* 82 (10): 829-832.
- Carey LE, Xu HHK, Simon CG, Takagi S, Chow LC. 2005. "Premixed rapid-setting calcium phosphate composites for bone repair." *Biomaterials* 26 (24): 5002-5014.
- Carter AC, Lorentz SR, Jung TM, Datla RU. 2005. "ACR II: improved absolute cryogenic radiometer for low background infrared calibrations." *Applied Optics* 44 (6): 871-875.
- Cessna JT. 2002. "The measurement of activity contained in a P-32 stainless-steel stent by destructive assay." *Applied Radiation and Isotopes* 56 (1-2): 337-342.

Cessna JT. 2004. "Determination of a Y-90 syringe calibration factor for a modified Capintec Beta-C radionuclide calibrator." *European Journal of Nuclear Medicine and Molecular Imaging* 31: S389.

Cessna JT, Zimmerman BE, Unterweger MP, Golas DB. 2004. "Establishment of transfer standard for holmium-166-DOTMP." *Applied Radiation and Isotopes* 60 (2-4): 505-510.

Chapados R, Sisbarro L, McKean DM, Merklinger S, Elliot J, Plant A, Jones PL. 2002. "Vascular smooth muscle cell tenascin-C expression depends upon cell shape: Role of Rho GTPases." *Molecular Biology of the Cell* 13: 344A.

Chandler EL, Smith AL, Burden LM, Kasianowicz JJ, Burden DL. 2004. "Single-molecule confocal microscopy and simultaneous electrical recording of DNA-threaded nanopores." *Langmuir* 20: 898-905.

Chauhan S, Caliskan G, Briber RM, Perez-Salas U, Rangan P, Thirumalai D, Woodson SA. 2005. "RNA tertiary interactions mediate native collapse of a bacterial group I ribozyme." *Journal of Molecular Biology* 353 (5): 1199-1209.

Chen-Mayer H, Tosh R. 2005. "A frequency-domain approach for addressing heat-transport problems in room-temperature water calorimeters." *Medical Physics* 32 (6): 2002.

Chen-Mayer H, Tosh R, Bateman F, Speicher P. 2005. "A first step toward a new national standard for direct calibrations in clinical high energy photon beams." *Medical Physics* 32 (6): 2127-2128.

Chen B, Amos JA, Beck JC, Barton DE, Chan MM, Farkas DH, Lebo RV, O'Connell CD, Richards CS, Roa BB, Silverman LM, Lubin IM, Boone DJ. 2004. "Developing a sustainable process to make quality control (QC) materials available in response to the needs of the genetic testing community." *Journal of Molecular Diagnostics* 6 (4): 412.

Cheng M, Rutenberg AD. 2005. "Maximally fast coarsening algorithms." *Physical Review. E, Statistical, Nonlinear, and Soft Matter Physics* 72 (5 Pt 2): 055701.

Cherng AM, Chow LC, Takagi S. 2001. "In vitro evaluation of a calcium phosphate cement root canal filler/sealer." *Journal of Endodontics* 27 (10): 613-615.

Cherng AM, Chow LC, Takagi S. 2004. "Reduction in dentin permeability using mildly supersaturated calcium phosphate solutions." *Archives of Oral Biology* 49 (2): 91-98.

Chevrollier N, Golmie N. 2005. "On the use of wireless network technologies in healthcare environments." *5th Workshop on Applications and Services in Wireless Networks*. Paris. <http://w3.antd.nist.gov/pubs05.shtml>.

Chevrollier N, Montavont N, Golmie N. 2005. "Handovers and Interference Mitigation in Healthcare Environments." MILCOM 2005, Atlantic City, NJ <http://w3.antd.nist.gov/pubs05.shtml>.

Chiaverini J, Leibfried D, Schaetz T, Barrett MD, Blakestad RB, Britton J, Itano WM, Jost JD, Knill E, Langer C, Ozeri R, Wineland DJ. 2004. "Realization of quantum error correction." *Nature* 432 (7017): 602-605.

Chiaverini J, Britton J, Leibfried D, Knill E, Barrett MD, Blakestad RB, Itano WM, Jost JD, Langer C, Ozeri R, Schaetz T, Wineland DJ. 2005. "Implementation of the semiclassical quantum Fourier transform in a scalable system." *Science* 308 (5724): 997-1000.

Chiu CH, Turle R, Poole G, Thibert B, Brubaker WW, Schantz MM, and Wise SA. 2001 "Determination of polychlorinated dibenzo-*p*-dioxin and dibenzofuran congeners in air particulate and marine sediment Standard Reference Materials (SRMs)." *Fresenius' Journal of Analytical Chemistry* 369: 356-363.

Chiu-Tsao S, Duckworth T, Zhang C, Soares C, Sliski A, Ho Y, Harrison L. 2003. "Evidence with ultra-high resolution film dosimetry of dose enhancement due to backscattered Sr-90 beta radiation from a stent." *Medical Physics* 30 (6): 1387.

Cho BH, Dickens SH, Bae JH, Chang CG, Son HH, Um CM. 2002. "Effect of interfacial bond quality on the direction of polymerization shrinkage flow in resin composite restorations." *Operative Dentistry* 27 (3): 297-304.

Cho BH, Dickens SH. 2004. "Effects of the acetone content of single solution dentin bonding agents on the adhesive layer thickness and the microtensile bond strength." *Dental Materials* 20 (2): 107-115.

Choquette SJ, Duewer DL, Hanssen LM, Early EA. 2005. "Standard reference material 2036 near-infrared reflection wavelength standard." *Applied Spectroscopy* 59 (4): 496-504.

Chow LC, Vogel GL. 2001. "Enhancing remineralization." *Operative Dentistry* : 27-38.

Chow LC, Takagi S. 2001. "Natural bone cement - a laboratory novelty led to the development of revolutionary new biomaterials." *Journal of Research of the National Institute of Standards and Technology* 106(6): 1029-1033.

Chow LC, Takagi S, Frukhtbeyn S, Sieck BA, Parry EE, Liao NS, Schumacher GE, Markovic M. 2002. "Remineralization effect of a low-concentration fluoride rinse in an intraoral model." *Caries Research* 36 (2): 136-141.

Chow LC, Markovic M, Takagi S. 2003. "A dual constant-composition titration system as in vitro resorption model for comparing dissolution rates of calcium phosphates biomaterials." *Journal of Biomedical Materials Research Part B-Applied Biomaterials* 65B (2): 245-251.

Chow LC, Markovic M, Frukhtbeyn SA, Takagi S. 2005. "Hydrolysis of tetracalcium phosphate under a near-constant-composition condition - effects of pH and particle size." *Biomaterials* 26 (4): 393-401.

Christenson RH, Duh SH, Apple FS, Bodor GS, Bunk DM, Dalluge J, Panteghini M, Potter JD, Welch MJ, Wu AHB, Kahn SE. 2001. "Standardization of cardiac troponin I assays: Round robin of ten candidate reference materials." *Clinical Chemistry* 47 (3): 431-437.

Christopher SJ, Vander Pol SS, Pugh RS, Day RD, and Becker PR. 2002 "Determination of mercury in the eggs of common murre (urina aalge) for the seabird tissue archival and monitoring project." *Journal of Analytical Atomic Spectrometry* 17: 780-785.

Chu PM. 2003. "Advances in optical methods for trace gas analysis." *Analytical and Bioanalytical Chemistry* 376 (3): 305-307.

Chu S, Tordova M, Gilliland GL, Gorshkova I, Shi Y, Wang S, Schwarz FP. 2001. "The structure of T127L/S128A mutant of cAMP receptor protein facilitates promoter site binding" *Journal of Biological Chemistry* 276: 11230-11236.

Chung DT, Drabek J, Opel KL, Butler JM, McCord BR. 2004. "A study on the effects of degradation and template concentration on the amplification efficiency of the STR miniplex primer sets." *Journal of Forensic Sciences* 49 (4): 733-740.

Chung JH, Matsuda M, Lee SH, Kakurai K, Ueda H, Sato TJ, Takagi H, Hong KP, Park S. 2005. "Statics and dynamics of incommensurate spin order in a geometrically frustrated antiferromagnet CdCr₂O₄." *Physical Review Letters* 95 (24): 247204.

Cicerone MT, Soles CL. 2004. "Fast dynamics and stabilization of proteins: Binary glasses of trehalose and glycerol." *Biophysical Journal* 86 (6): 3836-3845.

Clarke WB, Guscott R, Downing RG, Lindstrom RM. 2004. "Endogenous lithium and boron red cell-plasma ratios - Normal subjects versus bipolar patients not on lithium therapy." *Biological Trace Element Research* 97 (2): 105-115.

Clarke WB, Guscott R, Lindstrom RM. 2004. "Binding of lithium and boron to human plasma proteins II - Results for a bipolar patient not on lithium therapy." *Biological Trace Element Research* 97 (2): 117-124.

Coble MD, Butler JM. 2005. "Characterization of new MiniSTR loci to aid analysis of degraded DNA." *Journal of Forensic Sciences* 50 (1): 43-53.

Coddington JA, Chanzy HD, Jackson CL, Raty G, Gardner KH. 2002. "The unique ribbon morphology of the major ampullate silk of spiders from the genus *Loxosceles* (Recluse spiders)." *Biomacromolecules* 3 (1): 5-8.

Cole KD, Tellez CM, Nguyen R. 2001. "Controlling electrophoretic trapping of circular DNA by addition of starch preparations to agarose gels." *Applied Biochemistry and Biotechnology* 95 (1): 31-43.

Cole KD, Tellez CM. 2002. "Separation of large circular DNA by electrophoresis in agarose gels." *Biotechnology Progress* 18 (1): 82-87.

- Cole KD. 2003. "An apparatus for electrophoretic capture and recovery of circular DNA in thin layers." *Biotechnology and Applied Biochemistry* 37: 251-257.
- Colle R. 2001. "Calibration of P-32 "hot-wall" angioplasty-balloon-catheter sources by liquid-scintillation-spectrometry-based destructive radionuclidic assays." *Applied Radiation and Isotopes* 54 (4): 611-622.
- Colle R. 2002. "Activity characterization of pure-beta-emitting brachytherapy sources." *Applied Radiation and Isotopes* 56 (1-2): 331-336.
- Colle R, Zimmerman BE. 2002. "A dual-compensated cryogenic microcalorimeter for radioactivity standardizations." *Applied Radiation and Isotopes* 56 (1-2): 223-230.
- Connolly JM, Alferiev I, Clark-Gruel JN, Eidelman N, Sacks M, Palmatory E, Kronsteiner A, DeFelice S, Xu J, Ohri R, Narula N, Vyavahare N, Levy RJ. 2005. "Triglycidylamine crosslinking of porcine aortic valve cusps or bovine pericardium results in improved biocompatibility, biomechanics, and calcification resistance - Chemical and biological mechanisms." *American Journal of Pathology* 166 (1): 1-13.
- Cooke MS, Evans MD, Dizdaroglu M, Lunec J. 2003. "Oxidative DNA damage: mechanisms, mutation, and disease." *The FASEB Journal* 17 (10): 1195-1214.
- Cornell EA, Wieman CE. 2002. "Bose-Einstein condensation in a dilute gas: the first 70 years and some recent experiments (Nobel Lecture)." *Chemphyschem* 3 (6): 476-493.
- Coursey BM, Colle R, Coursey JS. 2002. "Standards of radium-226: from Marie Curie to the International Committee for Radionuclide Metrology." *Applied Radiation and Isotopes* 56 (1-2): 5-13.
- Coursey BM, Karam LR, Janszen H, Woods MJ. 2002. "Proceedings of the Conference on Radionuclide Metrology and its Applications, ICRM'2001 - Preface." *Applied Radiation and Isotopes* 56 (1-2): 3-4.
- Coursey BM, McLaughlin WL. 2002. "Wilfrid Basil Mann - Obituary." *Applied Radiation and Isotopes* 56 (1-2): 1-2.
- Coxon B. 2001. "Boat conformations. Analysis and simulation of the complex H-1 NMR spectrum of methyl 2,6 : 3,4-dianhydro-alpha-D-altropyranoside (vol 329, pg 131, 2000)." *Carbohydrate Research* 331 (2): 227-228.
- Coxon B, Reynolds RC. 2001. "Boat conformations part IV - Synthesis, NMR spectroscopy, and molecular dynamics of methyl 4,6-O-benzylidene-3-deoxy-3-phthalimido-alpha-D-altropyranoside derivatives." *Carbohydrate Research* 331 (4): 461-467.
- Crain JN, Pierce DT. 2005. "End states in one-dimensional atom chains." *Science* 307 (5710): 703-706.

- Cross WG, Hokkanen J, Jarvinen H, Mourtada F, Sipila P, Soares CG, Vynckier S. 2001. "Calculation of beta-ray dose distributions from ophthalmic applicators and comparison with measurements in a model eye." *Medical Physics* 28 (7): 1385-1396.
- Crouch DJ, Cook RF, Trudeau JV, Dove DC, Robinson JJ, Webster HL, Fatah AA. 2001. "The detection of drugs of abuse in liquid perspiration." *Journal of Analytical Toxicology* 25 (7): 625-627.
- Currie LA. 2001. "Some case studies of skewed (and other ab-normal) data distributions arising in low-level environmental research." *Fresenius' Journal of Analytical Chemistry* 370 (6): 705-718.
- Currie LA. 2004. "Detection and quantification limits: basic concepts, international harmonization, and outstanding ("low-level") issues." *Applied Radiation and Isotopes* 61 (2-3): 145-149.
- Curtis JE, Tarek M, Tobias DJ. 2004. "Methyl group dynamics as a probe of the protein dynamical transition." *Journal of the American Chemical Society* 126 (49): 15928-15929.
- Curtis JE, Tarek N, Neumann DA, Tobias DJ. 2004. "Co-solvent stabilization of proteins: Unary and binary glasses and effective dehydration." *Biophysical Journal* 86 (1): 619A.
- Dana CD, Krueger S, Noel J, Winkel-Shirley B. 2004. "Structural characterization of the flavonoid biosynthetic enzyme complex." *Biophysical Journal* 86 (1): 492A.
- Davidson YY, Soper SA, Margolis SA, and Sander LC. 2001 "Immobilization of the restriction enzymes *Hae*III and *Hind*III on porous silica particles via a glutaraldehyde linkage for the micro-digestion of dsDNA with analysis by capillary electrophoresis." *Journal of Separation Science* 24: 10-16.
- Davis WC, Christopher SJ, Turk GC. 2005. "Simultaneous mass bias and fractionation corrections utilizing isotopic solid standards and laser ablation ICPMS." *Analytical Chemistry* 77 (19): 6389-6395.
- Davis WC, Vander Pol SS, Schantz MM, Long SE, Day RD, and Christopher SJ. 2004 "An accurate and sensitive method for the determination of methylmercury in biological specimens using GC-ICP-MS with solid phase microextraction." *Journal of Analytical Atomic Spectrometry* 19 (12): 1546-1551.
- Day RD, Christopher SJ, Becker PR, Whitaker DW. 2005. "Monitoring mercury in the loggerhead sea turtle, *Caretta caretta*." *Environmental Science & Technology* 39 (2): 437-446.
- Deamer DW, Olsen H., Akeson MA, Kasianowicz JJ. 2002. "Mechanism of ionic current blockades during polymer transport through pores with nanometer dimensions." NATO Advanced Research Workshop. *Structure and Dynamics of Confined Polymers*. Kasianowicz JJ, Kellermayer MSZ, Deamer, DW (ed.)165-175.
- Deckman KH, Kishore R, Albanetti T, Peery S, Knipe A, Sheets A, Boire N, Reiner JE,

- DeLongchamp DM, Vogt BD, Brooks CM, Kano K, Obrzut J, Richter CA, Kirillov OA, Lin EK. 2005. "Influence of a water rinse on the structure and properties of poly(3,4-ethylene dioxothiophene):poly(styrene sulfonate) films." *Langmuir* 21 (24): 11480-11483.
- DeMarco B, Ben-Kish A, Leibfried D, Meyer V, Rowe M, Jelenkovic BM, Itano WM, Britton J, Langer C, Rosenband T, Wineland DJ. 2002. "Experimental demonstration of a controlled-NOT wave-packet gate." *Physical Review Letters* 89 (26): 267901.
- Deng L, Kozuma M, Hagley EW, Payne MG. 2002. "Opening optical four-wave mixing channels with giant enhancement using ultraslow pump waves." *Physical Review Letters* 88 (14): 143902.
- Deng L, Payne MG. 2003. "Inhibiting the onset of the three-photon destructive interference in ultraslow propagation-enhanced four-wave mixing with dual induced transparency." *Physical Review Letters* 91 (24): 243902.
- Deng L, Payne MG, Huang G, Hagley EW. 2005. "Formation and propagation of matched and coupled ultraslow optical soliton pairs in a four-level double- system." *Physical Review. E, Statistical, Nonlinear, and Soft Matter Physics* 72 (5 Pt 2): 055601.
- Deng Y, Lawn BR, Lloyd IK. 2002. "Characterization of damage modes in dental ceramic bilayer structures." *Journal of Biomedical Materials Research* 63 (2): 137-145.
- Deng Y, Lloyd I, Lawn BR. 2002. "Damage modes in all-ceramic crownlike bilayer and trilayer structures using contact testing." *Journal of Dental Research* 81: A470.
- Deng Y, Miranda P, Pajares A, Guiberteau F, Lawn BR. 2003. "Fracture of ceramic/ceramic/polymer trilayers for biomechanical applications." *Journal of Biomedical Materials Research Part A* 67A (3): 828-833.
- Devic S, Seuntjens J, Hegyi G, Podgorsak EB, Soares CG, Kirov AS, Ali I, Williamson JF, Elizondo A. 2004. "Dosimetric properties of improved GafChromic films for seven different digitizers." *Medical Physics* 31 (9): 2392-2401.
- Devic S, Soares C, Seuntjens J. 2004. "Absorption spectra of improved GafChromic film types." *Medical Physics* 31 (6): 1837.
- Devic S, bdel-Rahman W, Seuntjens J, Podgorsak E, Vuong T, Soares C. 2005. "Skin dose measurement with radiochromic film." *Medical Physics* 32 (6): 2061.
- Devic S, Seuntjens J, Sham E, Podgorsak EB, Schmidtlein CR, Kirov AS, Soares CG. 2005. "Precise radiochromic film dosimetry using a flat-bed document scanner." *Medical Physics* 32 (7): 2245-2253.
- DeWerd LA, Micka JA, Laird RW, Pearson DW, O'Brien M, Lamperti P. 2002. "The effect of spectra on calibration and measurement with mammographic ionization chambers." *Medical Physics* 29 (11): 2649-2654.

DeWerd LA, Micka JA, Laird RW, Pearson DW, O'Brien M, Lamperti P. 2003. "The effect of spectra on calibration and measurement with mammographic ionization chambers (vol 29, pg 2649, 2002)." *Medical Physics* 30 (3): 483.

DeWerd LA, Huq MS, Das IJ, Ibbott GS, Hanson WF, Slowey TW, Williamson JF, Coursey BM. 2004. "Procedures for establishing and maintaining consistent air-kerma strength standards for low-energy, photon-emitting brachytherapy sources: Recommendations of the Calibration Laboratory Accreditation Subcommittee of the American Association of Physicists in Medicine." *Medical Physics* 31 (3): 675-681.

Deyhim A, Zhou J, Schwartz F, Krueger S, Gregurick S. 2002. "Small Angle Neutron Scattering studies of PNA & DNA systems." *Biophysical Journal* 82 (1): 128A.

Dickens SH, Milos MF. 2002. "Relationship of dentin shear bond strengths to different laboratory test designs." *American Journal of Dentistry* 15 (3): 185-192.

Dickens SH, Flaim GM, Takagi S. 2003. "Mechanical properties and biochemical activity of remineralizing resin-based Ca-PO₄ cements." *Dental Materials* 19 (6): 558-566.

Dickens SH, Kelly SR, Flaim GM, Giuseppetti AA. 2004. "Dentin adhesion and microleakage of a resin-based calcium phosphate pulp capping and basing cement." *European Journal of Oral Sciences* 112 (5): 452-457.

Diddams SA, Udem T, Bergquist JC, Curtis EA, Drullinger RE, Hollberg L, Itano WM, Lee WD, Oates CW, Vogel KR, Wineland DJ. 2001. "An optical clock based on a single trapped ¹⁹⁹Hg⁺ ion." *Science* 293 (5531): 825-828.

Diddams SA, Bergquist JC, Jefferts SR, Oates CW. 2004. "Standards of time and frequency at the outset of the 21st century." *Science* 306 (5700): 1318-1324.

Diky VV, Chirico RD, Wilhoit RC, Dong Q, Frenkel M. 2003. "Windows-based guided data capture software for mass-scale thermophysical and thermochemical property data collection." *Journal of Chemical Information and Computer Sciences* 43 (1): 15-24.

DiMarzio EA, Kasianowicz JJ. 2003. "Phase transitions of a polymer threading a membrane: character of the transition when the molecule can undergo a helix-random coil or an equilibrium polymerization transition." *Unsolved Problems of Noise and Fluctuations in Physics, Biology, and High Technology (UPoN'2002)*. Bezrukov SM (ed). *American Institute of Physics Conference Proceedings* 665: 344-354.

DiMarzio EA, Kasianowicz JJ. 2003. "Phase transitions within the isolated polymer molecule: coupling of the PTM transition to the helix-random coil, the collapse, the adsorption, and the equilibrium polymerization transitions." *The Journal of Chemical Physics* 119: 6378-6387.

DiPietro SM, Centeno JM, Cerutti ML, Ferreira DU, Alonso LG, Schwarz FP, Goldbaum FA, de Prat-Gay G. 2003. "Specific antibody-DNA interaction: a novel strategy for tight double stranded DNA recognition." *Biochemistry* 42: 6218-6227.

- Dizdaroglu M, Burgess SM, Jaruga P, Hazra TK, Rodriguez H, Lloyd RS. 2001. "Substrate specificity and excision kinetics of Escherichia coli endonuclease VIII (Nei) for modified bases in DNA damaged by free radicals." *Biochemistry* 40 (40): 12150-12156.
- Dizdaroglu M, Jaruga P, Rodriguez H. 2001. "Identification and quantification of 8,5'-cyclic-2'-deoxyadenosine in DNA by liquid chromatography/mass spectrometry." *Free Radical Biology and Medicine* 30 (7): 774-784.
- Dizdaroglu M, Jaruga P, Rodriguez H. 2001. "Measurement of 8-hydroxy-2'-deoxyguanosine in DNA by high-performance liquid chromatography-mass spectrometry: comparison with measurement by gas chromatography-mass spectrometry." *Nucleic Acids Research* 29 (3): E12.
- Dizdaroglu M. 2002. "Introduction to serial reviews on oxidative DNA damage and repair." *Free Radical Biology and Medicine* 32 (8): 677.
- Dizdaroglu M, Jaruga P, Birincioglu M, Rodriguez H. 2002. "Measurement of oxidative DNA damage by liquid chromatography/mass spectrometry." *Free Radical Biology and Medicine* 33: S55-S56.
- Dizdaroglu M, Jaruga P, Birincioglu M, Rodriguez H. 2002. "Free radical-induced damage to DNA: Mechanisms and measurement." *Free Radical Biology and Medicine* 32 (11): 1102-1115.
- Dizdaroglu M, Jaruga P and Rodriguez, H. 2002. "Mechanisms and measurement of oxidative DNA damage." In *Oxidative Stress and Aging: Advances in Basic Science, Diagnostics and Intervention*. Cutler RG, Rodriguez H (ed): 165-189.
- Dizdaroglu M. 2003. "Substrate specificities and excision kinetics of DNA glycosylases involved in base-excision repair of oxidative DNA damage." *Mutation Research-Fundamental and Molecular Mechanisms of Mutagenesis* 531 (1-2): 109-126.
- Dizdaroglu M. 2004. "Measurement of oxidative DNA damage by gas chromatography-mass spectrometry and liquid chromatography-mass spectrometry." *Sample Preparation for Hyphenated Analytical Techniques*. Rosenfeld JM (ed): 39-51.
- Dizdaroglu M. 2005. "Base-excision repair of oxidative DNA damage by DNA glycosylases." *Mutation Research-Fundamental and Molecular Mechanisms of Mutagenesis* 591 (1-2): 45-59.
- Donald CE, Qureshi F, Burns MJ, Holden MJ, Blasic JR, Woolford AJ. 2005. "An inter-platform repeatability study investigating real-time amplification of plasmid DNA." *BMC Biotechnology* 5.
- Dong Q, Yan X, Wilhoit RC, Hong X, Chirico RD, Diky VV, Frenkel M. 2002. "Data quality assurance for thermophysical property databases--applications to the TRC SOURCE data system." *Journal of Chemical Information and Computer Sciences* 42 (3): 473-480.
- Donohue MJ, Satterfield MB, Dalluge JJ, Welch MJ, Girard JE, Bunk DM. 2005. "Capillary electrophoresis for the investigation of prostate-specific antigen heterogeneity." *Analytical Biochemistry* 339 (2): 318-327.

Dowal LM, Elliot JT, Popov SG, Wilkie TM, Scarlata S. 2001. "Association of RGS4 to G protein subunits and PLCB1." *Biophysical Journal* 80 (1): 56A-57A.

Drabek J, Chung DT, Butler JM, McCord BR. 2004. "Concordance study between Miniplex assays and a commercial STR typing kit." *Journal of Forensic Sciences* 49 (4): 859-860.

Drexler ES, McCowan CN, Wright JE, Slifka AJ, Ivy DD, Shandas R. 2004. "Comparison of strength properties of normotensive and hypertensive rat pulmonary arteries." *Biomedical Sciences Instrumentation* 40: 297-302.

Drexler ES, Slifka AJ, Wright JE, McCowan CN, Finch DS, Quinn TP, McColskey JD, Ivy DD, Shandas D. 2003. "An experimental method for measuring mechanical properties of rat pulmonary arteries." *Journal of Research of the National Institute of Standards and Technology* 108 (3): 183-191.

Duewer DL, Kline MC, Redman JW, Newall PJ, Reeder DJ. 2001. "NIST mixed stain studies #1 and #2: Interlaboratory comparison of DNA quantification practice and short tandem repeat multiplex performance with multiple-source samples." *Journal of Forensic Sciences* 46 (5): 1199-1210.

Duewer DL, Kline MC, Redman JW, Butler JM. 2004. "NIST mixed stain study 3: signal intensity balance in commercial short tandem repeat multiplexes." *Analytical Chemistry* 76 (23): 6928-6934.

Dunkers JP, Cicerone MT, Washburn NR. 2003. "Collinear optical coherence and confocal fluorescence microscopies for tissue engineering." *Optics Express* 11 (23): 3074-3079

Dunmire D, Walker ARH. 2003. "Surface enhanced Raman spectroscopy of supported membranes with application to membrane protein structural studies." *Biophysical Journal* 84 (2): 5A.

Dunmire D, Walker AH. 2004. "Structural studies of biomolecules with microfluidic SERS." *Biophysical Journal* 86 (1): 151A.

Dutta Roy T, Cho EH, Stone JJ, Lockett SJ, Sun W, Wang FW, Henderson L. 2005. "Osteoblast adhesion on tissue engineering scaffolds made by bio-manufacturing techniques." *Proceedings of IMECE, ASME International Mechanical Engineering Congress and Exposition* 16-1: 213-216.

Ege C, Majewski J, Satija S, Kjaer K, Lee KYC. 2003. "X-ray and neutron scattering from model membranes with amyloid beta." *Biophysical Journal* 84 (2): 577A.

Egler RA, Fernandes E, Rothermund K, Sereika S, de Souza-Pinto N, Jaruga P, Dizdaroglu M, Prochownik EV. 2005. "Regulation of reactive oxygen species, DNA damage, and c-Myc function by peroxiredoxin 1." *Oncogene* 24 (54): 8038-8050.

Eichmiller FC. 2001. "Research into non-mercury containing metallic alternatives." *Operative Dentistry* : 111-118.

Eichmiller FC, Eidelman N, Carey CM. 2005. "Controlling the fluoride dosage in a patient with compromised salivary function." *Journal of the American Dental Association* 136 (1): 67-70.

- Eidelman N, Simon Jr. CG. 2004. "Characterization of combinatorial polymer blend composition gradients by FTIR microspectroscopy." *Journal of Research of the National Institute of Standards and Technology* 109(2): 219-231.
- El Khadem HS, Shalaby MA, Coxon B. 2001. "The cations and anions of cyclobutanetetraone poly(phenylhydrazones)." *Carbohydrate Research* 334 (1): 61-70.
- El Khadem HS, Fatiadi AJ. 2004. "Hydrazine derivatives of carba sugars and related compounds." *Advances in Carbohydrate Chemistry and Biochemistry* (59): 135-173.
- Elliott JT, Silin V, Woodward JT, Vanderah DJ, Meuse CW, Kasianowicz JJ, Plant AL. 2001. "Detecting active peptides and proteins in tethered lipid bilayers." *Biophysical Journal* 80 (1): 145A.
- Elliott JT, Tona A, Jones PL, Plant AL. 2002. "Highly reproducible fibrillar and non-fibrillar Type I collagen surfaces induce a distribution of responses in smooth muscle cells." *Molecular Biology of the Cell* 13: 68A.
- Elliott JT, Tona A, Plant AL. 2003. "Comparison of reagents for shape analysis of fixed cells by automated fluorescence microscopy." *Cytometry Part A* 52A (2): 90-100.
- Elliott JT, Woodward JT, Langenbach KJ, Tona A, Jones PL, Plant AL. 2005. "Vascular smooth muscle cell response on thin films of collagen." *Matrix Biology* 24 (7): 489-502.
- Eppeldauer GP, Racz M. 2004. "Design and characterization of a photometer-colorimeter standard." *Applied Optics* 43 (13): 2621-2631.
- Evans MD, Dizdaroglu M, Cooke MS. 2004. "Oxidative DNA damage and disease: induction, repair and significance." *Mutation Research-Reviews in Mutation Research* 567 (1): 1-61.
- Fan J, Migdall A, Wang LJ. 2005. "Efficient generation of correlated photon pairs in a microstructure fiber." *Optics Letters* 30 (24): 3368-3370.
- Fang HW, Hsu SM, Sengers JV. 2003. "Generation of narrowly distributed ultra-high-molecular-weight polyethylene particles by surface texturing techniques." *Journal of Biomedical Materials Research Part B-Applied Biomaterials* 67B (2): 741-749.
- Fassett JD, MacDonald BS. 2001. "The development and certification of Standard Reference Materials (SRMs) to assess and ensure accurate measurement of Pb in the environment." *Fresenius' Journal of Analytical Chemistry* 370 (7): 838-842.
- Ferruzzi MG, Nguyen ML, Sander LC, Rock CL, Schwartz SJ. 2001. "Analysis of lycopene geometrical isomers in biological microsamples by liquid chromatography with coulometric array detection." *Journal of Chromatography B-Analytical Technologies in the Biomedical and Life Sciences* 760 (2): 289-299.

Fogh RH, Boucher W, Vranken WF, Pajon A, Stevens TJ, Bhat TN, Westbrook J, Ionides JMC, Laue ED. 2005. "A framework for scientific data modeling and automated software development." *Bioinformatics* 21 (8): 1678-1684.

Fogh RH, Boucher W, Vranken W, Pajon AS, Bhat TN, Westbrook J, Ionides J, Ernest LE. "Mempos: data modeling and automatic code generation in multiple languages." *Proceeding of the Second European Workshop on Model Driven Architecture (MDA) with an emphasis on Methodologies and Transformations*. Akehurst DH (ed).

Fogh RH, Ionides J, Ulrich E, Boucher W, Vranken W, Linge JP, Habeck M, Rieping W, Bhat TN, Westbrook J, Henrick K, Gilliland G, Berman H, Thornton J, Nilges M, Markley J, Laue E. 2002. "The CCPN project: an interim report on a data model for the NMR community." *Nature Structural Biology* 9(6): 416-418.

Fong H, Dickens SH, Flaim GM. 2005. "Evaluation of dental restorative composites containing polyhedral oligomeric silsesquioxane methacrylate." *Dental Materials* 21 (6): 520-529.

Forry SP, Reyes DR, Polk BJ, Gaitan M, Locascio LE. 2005. "Generating cell arrays in microfluidic networks." *Proceedings of the Micro Total Analysis Systems 2005*: 1398-1400.

Fox RW, Diddams SA, Bartels A, Hollberg L. 2005. "Optical frequency measurements with the global positioning system: tests with an iodine-stabilized He-Ne laser." *Applied Optics* 44 (1): 113-120.

Fox RW, Washburn BR, Newbury NR, Hollberg L. 2005. "Wavelength references for interferometry in air." *Applied Optics* 44 (36): 7793-7801.

Frenkel M, Chirico RD, Diky V, Yan X, Dong Q, Muzny C. 2005. "ThermoData Engine (TDE): software implementation of the dynamic data evaluation concept." *Journal of Chemical Information and Modeling* 45 (4): 816-838.

Fry D, Chakrabarti A, Kim W, Sorensen CM. 2004. "Structural crossover in dense irreversibly aggregating particulate systems." *Physical Review. E, Statistical, Nonlinear, and Soft Matter Physics* 69 (6 Pt 1): 061401.

Fry D, Mohammad A, Chakrabarti A, Sorensen CM. 2004. "Cluster shape anisotropy in irreversibly aggregating particulate systems." *Langmuir* 20 (18): 7871-7879.

Fujikawa K, Sugawara A, Kusama K, Nishiyama M, Murai S, Takagi S, Chow LC. 2002. "Fluorescent labeling analysis and electron probe microanalysis for alveolar ridge augmentation using calcium phosphate cement." *Dental Materials Journal* 21 (4): 296-305.

Gaigalas AK, Wang L, Vogt RF. 2002. "Frequency-domain measurement of the photodegradation process of fluorescein." *Photochemistry and Photobiology* 76 (1): 22-28.

Gallagher DT, Mayhew M, Holden MJ, Howard A, Kim KJ, Vilker VL. 2001. "The crystal structure of chorismate lyase shows a new fold and a tightly retained product." *Proteins-Structure Function and Genetics* 44 (3): 304-311.

Gallagher DT, Chinchilla D, Lau H, Eisenstein E. 2004. "Local and global control mechanisms in allosteric threonine deaminase." *Methods in Enzymology* (380): 85.

Gallagher DT, Monbouquette HG, Schroder I, Robinson H, Holden MJ, Smith NN. 2004. "Structure of alanine dehydrogenase from *Archaeoglobus*: Active site analysis and relation to bacterial cyclodeaminases and mammalian mu crystallin." *Journal of Molecular Biology* 342 (1): 119-130.

Garris MD, Wilson CL. 2005. "NIST biometric evaluations and developments." *Proceedings of the SPIE -Advanced Sensor Technologies for Nondestructive Evaluation and Structural Health Monitoring* 5780: 26-38.

Gebase L, Bertucat R, Snelick R. 2006. "Selecting effective rest messages." *The 2006 International Conference on Software Engineering Research and Practice (SERP'06)*.

Gehring PM, Wakimoto S, Ye ZG, Shirane G. 2001. "Soft mode dynamics above and below the Burns temperature in the relaxor $\text{Pb}(\text{Mg}_{1/3}\text{Nb}_{2/3})\text{O}_3$." *Physical Review Letters* 87 (27 Pt 1): 277601.

Geiger S, Matalon S, Blasbalg J, Tang MS, Eichmiller FC. 2003. "The clinical effect of amorphous calcium phosphate (ACP) on root surface hypersensitivity." *Operative Dentistry* 28 (5): 496-500.

Geiger SB, Matalon S, Blasbalg J, Tung M, Eichmiller F. 2003. "Desensitization of periodontically exposed root surfaces with topical application of calcium phosphate solutions." *Journal of Dental Research* 82: 383.

Gerena-Lopez Y, Nolan J, Wang L, Gaigalas A, Schwartz A, Fernandez-Repollet E. 2004. "Quantification of EGFP expression on molt-4 T cells using calibration standards." *Cytometry Part A* 60A (1): 21-28.

Germer TA. 2001. "Polarized light scattering by microroughness and small defects in dielectric layers." *Journal of the Optical Society of America. A, Optics, Image Science, and Vision* 18 (6): 1279-1288.

Germer TA, Marx E. 2004. "Ray model of light scattering by flake pigments or rough surfaces with smooth transparent coatings." *Applied Optics* 43 (6): 1266-1274.

Gilbert TW, Stolz DB, Biancaniello F, Simmons-Byrd A, Badylak SF. 2005. "Production and characterization of ECM powder: implications for tissue engineering applications." *Biomaterials* 26 (12): 1431-1435.

Gilliland GL, Teplyakov A, Obmolova G, Tordova M, Thanki N, Ladner J, Herzberg O, Lim K, Zhang H, Huang K, Li Z, Tempczyk A, Krajewski W, Parsons L, Yeh DC, Orban J, Howard AJ, Eisenstein E, Parsons F, Bonander N, Fisher KE, Toedt J, Reddy P, Rao CV, Melamud E, Moulton J. 2002. "Assisting functional assignment for hypothetical *Haemophilus influenzae* gene products through structural genomics." *Current Drug Targets. Infectious Disorders* 2 (4): 339-353.

Gilliland GL, Tung M, Ladner JE. 2002. "The Biological Macromolecule Crystallization Database: crystallization procedures and strategies." *Acta Crystallographica. Section D, Biological Crystallography* 58 (Pt 6 No 1): 916-920.

Gillis KA, Mehl JB, Moldover MR. 2003. "Theory of the Greenspan viscometer." *The Journal of the Acoustical Society of America* 114 (1): 166-173.

Giulian GG, Hwang JC, Bardo AM, Goldie SN, Krogmeier JR, Goldner LS, Merrill CR. 2003. "Analysis of the moving boundary in cross-gradient SDS-PAGE: a "triple point"." *The FASEB Journal* 17 (5): A987.

Giulian GG, Hwang JS, Goldie SN, Krogmeier JR, Bardo AM, Goldner LS, Merrill CR. 2003. "Examination of dodecyl sulfate properties in SDS-PAGE." *Biophysical Journal* 84 (2): 583A.

Goldberg RN. 2003. "Enzyme Catalysis – thermodynamics." In *McGraw-Hill Yearbook of Science and Technology*: 111-114.

Goldberg RN, Alberty RA. 2005. "Standard transformed Gibbs energies of formation for biochemical reactants." In: *CRC Handbook of Chemistry and Physics, 83rd Edition*. Lide DR (ed).

Goldberg RN, Kishore N, Lennen RM. 2002. "Thermodynamic quantities for the ionization reactions of buffers," *Journal of Physical and Chemical Reference Data* 31: 231-370.

Goldberg RN, Kishore N, Lennen RM. "Thermodynamic quantities for the ionization reactions of buffers in water." In: *CRC Handbook of Chemistry and Physics, 83rd Edition*. Lide DR (ed): 7-12 to 7-14.

Goldberg RN, Tewari YB. 2002. "Thermochemistry of the biochemical reaction: {pyrophosphate(aq) + H₂O(l) = 2 phosphate (aq)}." *The Journal of Chemical Thermodynamics* 34: 821-839.

Goldberg RN, Tewari YB. 2003. "Thermodynamics of the hydrolysis reactions of adenosine 3',5'-(cyclic)phosphate(aq) and phosphoenolpyruvate(aq); the standard molar formation properties of 3',5'-(cyclic)phosphate(aq) and phosphoenolpyruvate(aq)." *The Journal of Chemical Thermodynamics* 35: 1809-1830.

Goldberg RN, Tewari YB. 2004. "Thermodynamics of enzyme-catalyzed reactions," in "Enzyme Technology." Pandey A, Webb C, Soccol CR, Larroche C (ed): 63-83.

Goldberg RN, Tewari YB, Bhat TN. 2004. "Thermodynamics of enzyme-catalyzed reactions - a database for quantitative biochemistry." *Bioinformatics* 20 (16): 2874-2877.

Goldner LS, Weston KD, Heinz WF, Hwang J, DeJong E, Marino JP. 2001. "Single molecule probes." *Proceedings of the SPIE - The International Society for Optical Engineering* 4450: 70.

Golmie N, Cypher D, Rebala O. 2004. "Performance analysis of low rate wireless technologies for medical applications." *Computer Communications* 28 (10): 1266-1275.

Golmie N, Cypher D, Rebala O. 2004. "Performance evaluation of low rate WPANS for sensors and medical applications." *Proceedings for International Workshop on Theoretical Aspects of Wireless Ad hoc, Sensor, and Peer to Peer Networks*. Chicago, IL.

Gonzalez AL, Li H, Mitch M, Tolk N, Duggan DM. 2002. "Energy response of an imaging plate exposed to standard beta sources." *Applied Radiation and Isotopes* 57 (6): 875-882.

Goodpaster JV, Drumheller BC, Benner BA. 2003. "Evaluation of extraction techniques for the forensic analysis of human scalp hair using gas chromatography/mass spectrometry (GC/MS)." *Journal of Forensic Sciences* 48 (2): 299-306.

Granado E, Martinho H, Sercheli MS, Pagliuso PG, Jackson DD, Torelli M, Lynn JW, Rettori C, Fisk Z, Oseroff SB. 2002. "Unconventional metallic magnetism in LaCrSb₃." *Physical Review Letters* 89 (10): 107204.

Gulseren O, Yildirim T, Ciraci S. 2001. "Tunable adsorption on carbon nanotubes." *Physical Review Letters* 87 (11): 116802.

Guo L, Pietkiewicz D, Pavlov EV, Grigoriev SM, Kasianowicz JJ, Dejean LM, Korsmeyer SJ, Antonsson B, Kinnally KW. 2004. "Effects of cytochrome c on the mitochondrial apoptosis-induced channel MAC." *American Journal of Physiology-Cell Physiology* 286 (5): C1109-C1117.

Guttman CM, Wetzel SJ, Flynn KM, Fanconi BM, VanderHart DL, Wallace WE. 2005. "Matrix-assisted laser desorption/ionization time-of-flight mass spectrometry interlaboratory comparison of mixtures of polystyrene with different end groups: statistical analysis of mass fractions and mass moments." *Analytical Chemistry* 77 (14): 4539-4548.

Guyer JE, Boettinger WJ, Warren JA, McFadden GB. 2004. "Phase field modeling of electrochemistry. II. Kinetics." *Physical Review. E, Statistical, Nonlinear, and Soft Matter Physics* 69 (2 Pt 1): 021604.

Guyer JE, Boettinger WJ, Warren JA, McFadden GB. 2004. "Phase field modeling of electrochemistry. I. Equilibrium." *Physical Review. E, Statistical, Nonlinear, and Soft Matter Physics* 69 (2 Pt 1): 021603.

Hacker CA, Batteas JD, Garno JC, Marquez M, Richter CA, Richter LJ, van Zee RD, Zangmeister CD. 2004. "Structural and chemical characterization of monofluoro-substituted oligo(phenylene-ethynylene) thiolate self-assembled monolayers on gold." *Langmuir* 20 (15): 6195-6205.

Hacker CA, Anderson KA, Richter LJ, Richter CA. 2005. "Comparison of Si-O-C interfacial bonding of alcohols and aldehydes on Si(111) formed from dilute solution with ultraviolet irradiation." *Langmuir* 21 (3): 882-889.

- Haeffner F, Smith DG, Barnham KJ, Bush AI. 2005. "Model studies of cholesterol and ascorbate oxidation by copper complexes: Relevance to Alzheimer's disease beta-amyloid metallochemistry." *Journal of Inorganic Biochemistry* 99 (12): 2403-2422.
- Halverson KM, Panchal RG, Nguyen TL, Gussio R, Little SF, Misakian M, Bavari S, Kasianowicz JJ. 2005. "Anthrax biosensor, protective antigen ion channel asymmetric blockade." *Journal of Biological Chemistry* 280 (40): 34056-34062.
- Halverson KM, Panchal RG, Nguyen TL, Gussio R, Little SF, Misakian M, Bavari S, Kasianowicz JJ. 2005. "Electrophysiological analysis of anthrax toxin interactions." *Biophysical Journal* 88 (1): 476A-477A.
- Hammond MEH, Barker P, Taube S, Gutman S. 2003. "Standard reference material for Her2 testing - Report of a National Institute of Standards and Technology-sponsored Consensus Workshop." *Applied Immunohistochemistry & Molecular Morphology* 11 (2): 103-106.
- Hancock DK, Schwarz FP, Song FH, Wong LJC, Levin BC. 2002. "Design and use of a peptide nucleic acid for detection of the heteroplasmic low-frequency mitochondrial encephalomyopathy, lactic acidosis, and stroke-like episodes (MELAS) mutation in human mitochondrial DNA." *Clinical Chemistry* 48 (12): 2155-2163.
- Hancock DK, Tully LA, Levin BC. 2005. "A Standard Reference Material to determine the sensitivity of techniques for detecting low-frequency mutations, SNPs, and heteroplasmies in mitochondrial DNA." *Genomics* 86 (4): 446-461.
- Hanssen L. 2001. "Integrating-sphere system and method for absolute measurement of transmittance, reflectance, and absorptance of specular samples." *Applied Optics* 40 (19): 3196-3204.
- Hash J, Bowen, P, Johnson A, Smith CD, Steinberg DI. 2005. "An introductory resource guide for implementing the Health Insurance Portability and Accountability Act." NIST SP 800-66. <http://csrc.nist.gov/publications/nistpubs/index.html>.
- Hazra TK, Izumi, T. Boldogh, I. Imhoff, B. Kow YW, Jaruga P, Dizdaroglu M, Mitra S. 2002. "Identification and characterization of a novel human DNA glycosylase for repair of modified bases in oxidatively damaged DNA." *Proceedings of the National Academy of Sciences of the United States of America* 99: 3523-3528.
- Hearn R, Soares CG, Bergman J, Millage K, Napolitano M, Rodgers J. 2004. "Radiological characterization of a 103Pd ocular brachytherapy source." *Medical Physics* 31 (6): 1914.
- Heinz WF, Navarro B, Weston KD, Bernardi P, Goldner LS. 2001. "A combined atomic force, confocal, and total internal reflection microscope for the study of single molecules." *Biophysical Journal* 80 (1): 155A.
- Heinz WF, Weston KD, Jolivet V, Navarro B, Bernardi P, Goldner LS. 2002. "A combined atomic force, confocal, and total internal reflection microscope for single molecule microscopy." *Biophysical Journal* 82 (1): 41A.

- Heinz WF, Goldner LS. 2003. "Fluorescence quenching dynamics of single antigen-antibody pairs under an applied load." *Biophysical Journal* 84 (2): 124A.
- Helmerson K, Kishore R, Phillips WD, Weetall HH. 2001. "An optical tweezers-based immunosensor for detection of femtomoles-per-liter concentrations of antigens." *Applied Biochemistry and Biotechnology* 96 (1-3): 205-213.
- Helmerson K, Reiner J, Kishore R, Jofre A, Edgu-Fry E. 2005. "Stable polymer nanotubes from polymersomes." *Biophysical Journal* 88 (1): 659A.
- Henderson LA. 2005. "Biotechnology: key to sustainable technology for the 21st century; three case studies." *American Chemical Society Symposium Series 900, Polymer Biocatalysis and Biomaterials* 2: 14-36.
- Henry AC, Waddell EA, Shreiner R, Locascio LE. 2002. "Control of electroosmotic flow in laser-ablated and chemically modified hot imprinted poly(ethylene terephthalate glycol) microchannels." *Electrophoresis* 23 (5): 791-798.
- Henry HC, Ross D, Locascio LE. 2002. "Molecularly-imprinted stationary phases for plastic microchip-based capillary electrochromatography." *Micro Total Analysis Systems 2002 Proceedings of the mTas 2002 Symposium*: 434-436.
- Herzberg O, Chen CC, Liu S, Tempczyk A, Howard A, Wei M, Ye D, Dunaway-Mariano D. 2002. "Pyruvate site of pyruvate phosphate dikinase: crystal structure of the enzyme-phosphonopyruvate complex, and mutant analysis." *Biochemistry* 41 (3): 780-787.
- Hess JL, Atha DH, Xu JF, Highsmith WE. 2004. "Telomerase activity measurement in magnetically captured epithelial cells: Comparison of slab-gel and capillary electrophoresis." *Electrophoresis* 25 (12): 1852-1859.
- Hinz H-J, Schwarz FP "Measurement and the analysis of results obtained on biological substances with differential scanning calorimetry." 2001. *Pure and Applied Chemistry* 73: 745-759.
- Hinz H-J, Schwarz FP "Measurement and the analysis of results obtained on biological substances with differential scanning calorimetry." 2001. *The Journal of Chemical Thermodynamics* 34: 1-15.
- Ho DL, Byrnes WM, Ma WP, Shi Y, Callaway DJE, Bu ZM. 2004. "Structure-specific DNA-induced conformational changes in Taq polymerase revealed by small angle neutron scattering." *Journal of Biological Chemistry* 279 (37): 39146-39154.
- Hobbie EK. 2004. "Optical anisotropy of nanotube suspensions." *The Journal of Chemical Physics* 121 (2): 1029-1037.
- Hobbie EK, Lin-Gibson S, Wang H, Pathak JA, Kim H. 2004. "Ubiquity of domain patterns in sheared viscoelastic fluids." *Physical Review. E, Statistical, Nonlinear, and Soft Matter Physics* 69 (6 Pt 1): 061503.

Hofmann W, Crawford-Brown DJ, Fakir H, Caswell RS. 2002. "Energy deposition, cellular radiation effects and lung cancer risk by radon progeny alpha particles." *Radiation Protection Dosimetry* 99 (1-4): 453-456.

Holbrook RD, Breidenich J, DeRose PC. 2005. "Impact of reclaimed water on select organic matter properties of a receiving stream-fluorescence and perylene sorption behavior." *Environmental Science & Technology* 39 (17): 6453-6460.

Holden JM, Andrews KW, Zhao C, Schweitzer AL, Perry CR, Harnly J, Wolf W, Dwyer JT, Picciano MF, Betz JM, Saldanha LG, Yetley E, Fisher K, Sharpless K, Radimer K, Bindewald B. 2005. "Dietary supplement ingredient database project: protocol development." 19 (4): A86.

Holden MJ, Mayhew MP, Gallagher DT, Vilker VL. 2001. "Chorismate lyase: Understanding the mechanism of product inhibition." *The FASEB Journal* 15 (5): A1160.

Holden MJ, Mayhew MP, Gallagher DT, Vilker VL. 2002. "Chorismate lyase: kinetics and engineering for stability." *Biochimica Et Biophysica Acta-Protein Structure and Molecular Enzymology* 1594 (1): 160-167.

Holden MJ, Blasic JR, Bussjaeger L, Kao C, Shokere LA, Kendall DC, Freese L, Jenkins GR. 2003. "Evaluation of extraction methodologies for corn kernel (*Zea mays*) DNA for detection of trace amounts of biotechnology-derived DNA." *Journal of Agricultural and Food Chemistry* 51 (9): 2468-2474.

Hougen JT, Oka T. 2005. "Chemistry. Nuclear spin conversion in molecules." *Science* 310 (5756): 1913-1914.

Howard-Reed C, Wallace LA, Ott WR. 2002. "The effect of opening windows on air change rates in two homes." *Journal of the Air & Waste Management Association* 52 (2): 147-159.

Howe DA, Beard RL, Greenhall CA, Vernotte F, Riley WJ, Peppler TK. 2005. "Enhancements to GPS operations and clock evaluations using a "total" Hadamard deviation." *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control* 52 (8): 1253-1261.

Hoyt CW, Barber ZW, Oates CW, Fortier TM, Diddams SA, Hollberg L. 2005. "Observation and absolute frequency measurements of the 1S0-3P0 optical clock transition in neutral ytterbium." *Physical Review Letters* 95 (8): 083003.

Hu JP, de Souza-Pinto NC, Haraguchi K, Hogue BA, Jaruga P, Greenberg MM, Dizdaroglu M, Bohr VA. 2005. "Repair of formamidopyrimidines in DNA involves different glycosylases - Role of the OGG1, NTH1, and NEIL1 enzymes." *Journal of Biological Chemistry* 280 (49): 40544-40551.

Huang G, Deng L, Payne MG. 2005. "Dynamics of ultraslow optical solitons in a cold three-state atomic system." *Physical Review. E, Statistical, Nonlinear, and Soft Matter Physics* 72 (1 Pt 2): 016617.

- Hudson SD, Jamieson AM, Burkhart BE. 2003. "The effect of surfactant on the efficiency of shear-induced drop coalescence." *Journal of Colloid and Interface Science* 265 (2): 409-421.
- Hunt FY. 2004. "A Pathwise Optimality Result For A Class of Unichain Markov Decision Processes." *Proceedings of American Mathematical Society Workshop on Ergodic Theory & Probability Theory*, Chapel Hill NC.
- Hunt FY, Kearsley AJ, O'Gallagher A.. 2002. A tutorial on multiple sequence alignment of biological sequences." *Proceedings of the Sixth Conference for African American Researchers in the Mathematical Sciences*. Princeton, NJ.
- Hunt FY, Kearsley AJ, O'Gallagher A. 2004. "Constructing sequence alignments from a Markov decision model with estimated parameter values." *2003 Proceedings of the Biological Language Conference*. Pittsburg, PA.
- Hunt FY, Kearsley AJ, O'Gallagher A. 2004. "Constructing sequence alignments from a Markov decision model with estimated parameter values." *Applied Bioinformatics* 3 (2-3): 159-165.
- Hussain LA, Dickens SH, Bowen RL. 2004. "Effects of polymerization initiator complexation in methacrylated beta-cyclodextrin formulations." *Dental Materials* 20 (6): 513-521.
- Hussain LA, Dickens SH, Bowen RL. 2005. "Properties of eight methacrylated beta-cyclodextrin composite formulations." *Dental Materials* 21 (3): 210-216.
- Hussain LA, Dickens SH, Bowen RL. 2005. "Shear bond strength of experimental methacrylated betacyclodextrin-based formulations." *Biomaterials* 26 (18): 3973-3979.
- Hwang J, Krogmeier JR, Giulian GG, Goldner LS, Merril CR. 2004. "Real-time fluorescence polarization modulation microscopy of the dynamic boundary in SDS-PAGE and the interfaces of lipid fusion and diffusion." *Biophysical Journal* 86 (1): 320A.
- Hwang JS, Krogmeier JR, Tokumasu F, Briggman KA, Dvorak JA. 2004. "Photoluminescence studies of CdSe nanocrystals conjugated with biomolecules." *Biophysical Journal* 86 (1): 481A-482A.
- Hwang JS, Krogmeier JR, Kim DH. 2005. "Probing nano-environment of semiconductor single nanocrystals using single molecule confocal and chemical sensor scanning probe microscopies." *Biophysical Journal* 88 (1): 339A.
- Indekeu JO, Posazhennikova AI, Ross D, Bonn D, Meunier J. 2002. "Crossover from first-order to critical wetting in methanol-on alkanes." *Journal of Physics: Condensed Matter* 14: 4777-4783.
- Inokuti M, Seltzer SM. 2002. "Physics as an element of Radiation Research." *Radiation Research* 158 (1): 3-12.
- Jacobson DL, Allman BE, McMahon J, Nugent KA, Paganin D, Arif M, Werner SA. 2004. "Thermal and cold neutron phase-contrast radiography." *Applied Radiation and Isotopes* 61 (4): 547-550.

Jacox ME, Thompson WE. 2005. "Infrared spectra of NH_2NO , NH_2NO^+ , and NNOH^+ and of the $\text{N}_2\cdots\text{H}_2\text{O}$ complex trapped in solid neon." *The Journal of Chemical Physics* 123 (6): 64501.

Jakupciak JP, O'Connell CD, Atha DA, Richie KL. 2001. "Standardization of PCR amplification for fragile X trinucleotide repeat measurements." *American Journal of Human Genetics* 69 (4): 430.

Jakupciak JP, Wang W, Barker PE, Srivastava S, Atha DH. 2003. "Analytical validation of telomerase activity for cancer early detection - TRAP/PCR-CE and hTERT mRNA quantification assay for high-throughput screening of tumor cells." *Journal of Molecular Diagnostics* 6 (3): 157-165.

Jakupciak JP. 2005. "Real-time telomerase activity measurements for detection of cancer." *Expert Review of Molecular Diagnostics* 5 (5): 745-753.

Jakupciak JP, Barker PE, Wang W, Srivastava S, Atha DH. 2005. "Preparation and characterization of candidate reference materials for telomerase assays." *Clinical Chemistry* 51 (8): 1443-1450.

Jakupciak JP, Wang W, Markowitz ME, Ally D, Coble M, Srivastava S, Maitra A, Barker PE, Sidransky D, O'Connell CD. 2005. "Mitochondrial DNA as a cancer biomarker." *Journal of Molecular Diagnostics* 7 (2): 258-267.

Jaruga P, Birincioglu M, Rodriguez H, Dizdaroglu M. 2002. "Mass spectrometric assays for the tandem lesion 8,5'-cyclo-2'-deoxyguanosine in mammalian DNA." *Biochemistry* 41 (11): 3703-3711.

Jaruga P, Jabil R, McCullough AK, Rodriguez H, Dizdaroglu M, Lloyd RS. 2002. "Chlorella virus pyrimidine dimer glycosylase excises ultraviolet radiation and hydroxyl radical-induced products 4,6-diamino-5-formamidopyrimidine and 2,6-diamino-4-hydroxy-5-formamidopyrimidine from DNA." *Photochemistry and Photobiology* 75 (2): 85-91.

Jaruga P, Birincioglu M, Rosenquist TA, Dizdaroglu M. 2004. "Mouse NEIL1 protein is specific for excision of 2,6-diamino-4-hydroxy-5-formamidopyrimidine and 4,6-diamino-5-formamidopyrimidine from oxidatively damaged DNA." *Biochemistry* 43 (50): 15909-15914.

Jaruga P, Theruvathu J, Dizdaroglu M, Brooks PJ. 2004. "Complete release of (5'-S)-8,5'-cyclo-2'-deoxyadenosine from dinucleotides, oligodeoxynucleotides and DNA, and direct comparison of its levels in cellular DNA with other oxidatively induced DNA lesions." *Nucleic Acids Research* 32 (11): E87.

Jaruga PW, Rodriguez H, Dizdaroglu M. 2001. "Measurement of 8-hydroxy-2'-deoxyadenosine in DNA by liquid chromatography/mass spectrometry." *Free Radical Biology and Medicine* 31 (3): 336-344.

Jefferts SR, Shirley JH, Ashby N, Burt EA, Dick GJ. 2005. "Power dependence of distributed cavity phase-induced frequency biases in atomic fountain frequency standards." *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control* 52 (12): 2314-2321.

- Jiang YL, Song FH, Stivers JT. 2002. "Electrostatic stabilization of an oxacarbenium ion by uracil DNA glycosylase." *Biochemistry* 41 (28): 8992.
- Jimenez R. 2005. "Photon echo spectroscopy as a probe of conformational dynamics in folded and unfolded heme proteins." *Biophysical Journal* 88 (1): 558A.
- Jiro T, Stansbury JW, Antonucci JM, Suzuki K. 2002. "Effect of acidic monomer structure on polymer properties of UDMA/Acidic monomer resins." *Journal of Dental Research* 81: A336.
- Johnson TJ, Locascio LE. 2002. "Characterization and optimization of slanted well designs for microfluidic mixing under electroosmotic flow." *Lab on a Chip* 2 (3): 135-140.
- Johnson TJ, Ross, D, Gaitan M, Locascio LE. 2001. "Laser modification of preformed polymer microchannels: application to reduce band broadening around turns subject to electrokinetic flow." *Analytic Chemistry* 73: 3656-3661.
- Johnson TJ, Ross, D, Gaitan M, Locascio LE. 2001. "Laser modification of channels to reduce band broadening or to increase mixing." *Micro Total Analysis Systems 2001 Proceedings of the mTas 2001 Symposium*: 603-604.
- Johnson TJ, Ross, D, Locascio LE. 2002. "Rapid microfluidic mixing." *Analytic Chemistry* 74: 45-51.
- Just RS, Irwin JA, O'Callaghan JE, Saunier JL, Coble MD, Vallone PM, Butler JM, Barritt SM, Parsons TJ. 2004. "Toward increased utility of mtDNA in forensic identifications." *Forensic Science International* 146: S147-S149.
- Karakaya A, Ates I, Jaruga P, Suzen HS, Dizdaroglu M. 2001. "The oxidative DNA base damage in testes tissue of rats after intraperitoneal cadmium injection." *Toxicology* 164 (1-3): 58-59.
- Karam LR, Pibida L, McMahon CA. 2002. "Use of resonance ionization mass spectrometry for determination of Cs ratios in solid samples." *Applied Radiation and Isotopes* 56 (1-2): 369-374.
- Kashiwagi T, Du F, Douglas JF, Winey KI, Harris RH, Jr., Shields JR. 2005. "Nanoparticle networks reduce the flammability of polymer nanocomposites." *Nature Materials* 4 (12): 928-933.
- Kasianowicz, JJ. 2004. "Nanopores. Flossing with DNA." *Nature Materials* 3: 355-356.
- Kasianowicz JJ, Henrickson SE, Misakian M, Weetall HH, Robertson B. 2001. "Applications for DNA transport in a single nanopore." *Biophysical Journal* 80 (1): 339A.
- Kasianowicz JJ, Henrickson SE, Weetall HH, Robertson B. 2001. "Simultaneous multianalyte detection with a nanometer-scale pore." *Analytical Chemistry* 73 (10): 2268-2272.
- Kasianowicz JJ, Henrickson SE, Weetall HH, Robertson B, Stanford V. 2002. "Physics of DNA threading through a nanometer pore and applications to simultaneous multianalyte sensing."

NATO Advanced Research Workshop. *Structure and Dynamics of Confined Polymers*. Kasianowicz JJ, Kellermayer MSZ, Deamer DW (ed.): 141-163.

Kasianowicz JJ. 2002. "Nanometer, scale pores: Potential applications for analyte detection and DNA characterization." *Disease Markers* 18 (4): 185-191.

Kasianowicz JJ, DiMarzio EA, Krasilnikov OV, Henrickson SE. 2002. "Characterizing single nanopores with polynucleotides." *Biophysical Journal* 82 (1): 187A-188A.

Kee TW, Cicerone MT. 2005. "Biological imaging using broadband Coherent anti-Stokes Raman Scattering (CARS) microscopy." *Biophysical Journal* 88 (1): 362A.

Keller JM, Kucklick JR, Harms CA, McClellan-Green, PD. 2004 "Organochlorine contaminants in sea turtles: correlations between whole blood and fat." *Environmental Toxicology and Chemistry* 23 (3): 726-738.

Keller JM, Kucklick JR, McClellan-Green, PD. 2004 "Organochlorine contaminants in loggerhead sea turtle blood: Extraction techniques and distribution among plasma and red blood cells." *Archives of Environmental Contamination and Toxicology* 46 (2): 254-264.

Kelly WR, Long SE, Mann JL. 2003. "Determination of mercury in SRM crude oils and refined products by isotope dilution cold vapor ICP-MS using closed-system combustion." *Analytical and BioAnalytical Chemistry* 376 (5): 753-758.

Kharchenko SB, Douglas JF, Obrzut J, Grulke EA, Migler KB. 2004. "Flow-induced properties of nanotube-filled polymer materials." *Nature Materials* 3 (8): 564-568.

Khatri CA, Stansbury JW, Schultheisz CR, Antonucci JM. 2003. "Synthesis, characterization and evaluation of urethane derivatives of Bis-GMA." *Dental Materials* 19 (7): 584-588.

Kielbinski D, Meyer V, Rowe MA, Sackett CA, Itano WM, Monroe C, Wineland DJ. 2001. "A decoherence-free quantum memory using trapped ions." *Science* 291 (5506): 1013-1015.

Kim J, Batteas JD, Forbes JG, Wang KA. 2005. "Fabrication and characterization of patterned surfaces for single protein arrays by scanning probe techniques." *Biophysical Journal* 88 (1): 156A.

Kim K, Washburn BR, Wilpers G, Oates CW, Hollberg L, Newbury NR, Diddams SA, Nicholson JW, Yan MF. 2005. "Stabilized frequency comb with a self-referenced femtosecond Cr:forsterite laser." *Optics Letters* 30 (8): 932-934.

Kirov AS, Piao JZ, Mathur N, Miller TR, Devic S, Trichter S, Zaider M, LoSasso T, Soares C. 2005. "A test of the 3D scintillation dosimetry method for a Ru-106 eye plaque applicator." *Medical Physics* 32 (6): 2002.

Kirov AS, Piao JZ, Mathur NK, Miller TR, Devic S, Trichter S, Zaider M, Soares CG, LoSasso T. 2005. "The three-dimensional scintillation dosimetry method: test for a Ru-106 eye plaque applicator." *Physics in Medicine and Biology* 50 (13): 3063-3081.

- Kline MC, Duewer DL, Redman JW, Butler JM, Boyer DA. 2002. "Polymerase chain reaction amplification of DNA from aged blood stains: quantitative evaluation of the "suitability for purpose" of four filter papers as archival media." *Analytical Chemistry* 74 (8): 1863-1869.
- Kline MC, Duewer DL, Redman JW, Butler JM. 2005. "Results from the NIST 2004 DNA quantitation study." *Journal of Forensic Sciences* 50 (3): 571-578.
- Kline MC, Vallone PM, Redman JW, Duewer DL, Calloway CD, Butler JM. 2005. "Mitochondrial DNA typing screens with control region and coding region SNPs." *Journal of Forensic Sciences* 50 (2): 377-385.
- Klouda GA, Filliben JJ, Parish HJ, Chow JC, Watson JG, Cary RA. 2005. "Reference Material 8785: Air Particulate Matter on Filter Media." *Aerosol Science and Technology* 39 (2): 173-183.
- Knappe S, Hollberg L, Kitching J. 2004. "Dark-line atomic resonances in submillimeter structures." *Optics Letters* 29 (4): 388-390.
- Knappe S, Gerginov V, Schwindt PD, Shah V, Robinson HG, Hollberg L, Kitching J. 2005. "Atomic vapor cells for chip-scale atomic clocks with improved long-term frequency stability." *Optics Letters* 30 (18): 2351-2353.
- Kneller LR, Edwards AM, Nordgren CE, Blasie JK, Berk NF, Krueger S, Majkrzak CF. 2001. "Hydration state of single cytochrome c monolayers on soft interfaces via neutron interferometry." *Biophysical Journal* 80 (5): 2248-2261.
- Knill E. 2005. "Quantum computing with realistically noisy devices." *Nature* 434 (7029): 39-44.
- Koe GS, Vilker VL. 2005. "Effect of oxygen on the dehalogenation of 1,2-dibromo-3-chloropropane by cytochrome P450cam (CYP101)." *Biotechnology Progress* 21 (4): 1119-1127.
- Koo SM, Li Q, Edelstein MD, Richter CA, Vogel EM. 2005. "Enhanced channel modulation in dual-gated silicon nanowire transistors." *Nano Letters* 5 (12): 2519-2523.
- Korter TM, Plusquellic DF, Walker AH, Fraser GT. 2002. "Continuous-wave terahertz spectroscopy of biomolecules." *Biophysical Journal* 82 (1): 15A.
- Korter TM, Iwaki L, Heilweil EJ, Kutteruf MR, Campbell MB. 2003. "Terahertz spectroscopy of oligopeptides and amino acids." *Biophysical Journal* 84 (2): 482A.
- Korter TM, Middleton C, Tim JS, Dunmire D, Romero D, Hudson BS, Walker ARH. 2003. "Structural and dynamical details of biotin." *Biophysical Journal* 84 (2): 5A.
- Kotochigova S, Tiesinga E. 2005. "Ab initio relativistic calculation of the RbCs molecule." *The Journal of Chemical Physics* 123 (17): 174304.
- Kotrappa P, Stieff LR, Volkovitsky P. 2005. "Radon monitor calibration using NIST radon emanation standards: Steady flow method." *Radiation Protection Dosimetry* 113 (1): 70-74.

- Koubi L, Tarek M, Bandyopadhyay S, Klein ML, Scharf D. 2001. "Membrane structural perturbations caused by anesthetics and nonimmobilizers: A molecular dynamics investigation." *Biophysical Journal* 81 (6): 3339-3345.
- Kramer GH, Hauck BM, Marro L, Inn KGW, Unterweger M, Hodge P. 2004. "The use of autoradiography for investigating the distribution of radioactivity in lung counter calibration sources." *Health Physics* 86 (4): 359-364.
- Krauss M. 2001. "Ab initio structure of the active site of phosphotriesterase." *Journal of Chemical Information and Computer Sciences* 41 (1): 8-17.
- Krogmeier J, Hwang J. 2005. "Data analysis considerations in probing single quantum dot fluorescence intermittency." *Proceedings of the SPIE - The International Society for Optical Engineering* 5038: 428-436.
- Krosky DJ, Schwarz FP, Stivers JT. 2004. "Linear free energy correlations for enzymatic damaged base flipping: entropic and enthalpic contributions of the damaged base pair" *Biochemistry* 43: 4188-4195.
- Krueger S, Gregurick S, Zondlo J, Eisenstein E. 2003. "Interaction of GroEL and GroEL/GroES Chaperonins with a non-native polypeptide substrate: A small-angle neutron scattering study." *Biophysical Journal* 84 (2): 175A.
- Krueger S, Gregurick SK, Zondlo J, Eisenstein E. 2003. "Interaction of GroEL and GroEL/GroES complexes with a nonnative subtilisin variant: a small-angle neutron scattering study." *Journal of Structural Biology* 141 (3): 240-258.
- Kucklick JR, Struntz WD, Becker PR, York GW, O'Hara TM, Bohonowych JE. 2002. "Persistent organochlorine pollutants in ringed seals and polar bears collected from northern Alaska." *The Science of the Total Environment* 287 (1-2): 45-59.
- Kucklick JR, Tuerk KJ, Vander Pol SS, Schantz MM, Wise SA. 2004. "Polybrominated diphenyl ether congeners and toxaphene in selected marine standard reference materials." *Analytical and Bioanalytical Chemistry* 378 (5): 1147-1151.
- Kulin S, Kishore R, Helmerson K, Hubbard J. 2001. "Antibody antigen adhesion studies using optical tweezers." *Biophysical Journal* 80 (1): 163A.
- Kulin S, Kishore R, Hubbard JB, Helmerson K. 2002. "Real-time measurement of spontaneous antigen-antibody dissociation." *Biophysical Journal* 83 (4): 1965-1973.
- Kulin S, Kishore R, Helmerson K, Locascio L. 2003. "Optical manipulation of liposomes as microreactors." *Biophysical Journal* 84 (2): 196A.
- Kurnikova MG, Roitberg AE, Beratan DN. 2001. "Energetic analysis of F1 ATP synthase conformations and substrate binding." *Biophysical Journal* 80 (1): 500A.

- Kurylo MJ, Orkin VL. 2003. "Determination of atmospheric lifetimes via the measurement of OH radical kinetics." *Chem Rev* 103 (12): 5049-5076.
- Kuzmanovic DA, Elashvili I, Wick C, O'Connell C, Krueger S. 2003. "Bacteriophage MS2: Molecular weight and spatial distribution of the protein and RNA components by small-angle neutron scattering and virus counting." *Structure* 11 (11): 1339-1348.
- Kuzmanovic DA, Elashvili I, Wick C, O'Connell C, Krueger S. 2005. "A novel role for the MS2 phage maturation protein as revealed by small angle neutron scattering." *Biophysical Journal* 88 (1): 41A-42A.
- Laabs H, Eppich B, Weber H. 2002. "Modal decomposition of partially coherent beams using the ambiguity function." *Journal of the Optical Society of America. A, Optics, Image Science, and Vision* 19 (3): 497-504.
- Ladner JE, Obmolova G, Teplyakov A, Howard AJ, Khii PP, Camerini-Otero RD, Gilliland GL. 2003. "Crystal structure of Escherichia coli protein ybgI, a toroidal structure with a dinuclear metal site." *BMC Struct Biol* 3: 7.
- Laksanalamai P, Jiemjit A, Bu Z, Maeder DL, Robb FT. 2003. "Multi-subunit assembly of the Pyrococcus furiosus small heat shock protein is essential for cellular protection at high temperature." *Extremophiles* 7 (1): 79-83.
- Langer C, Ozeri R, Jost JD, Chiaverini J, DeMarco B, Ben-Kish A, Blakestad RB, Britton J, Hume DB, Itano WM, Leibfried D, Reichle R, Rosenband T, Schaetz T, Schmidt PO, Wineland DJ. 2005. "Long-lived qubit memory using atomic ions." *Physical Review Letters* 95 (6): 060502.
- Laufer AH, Fahr A. 2004. "Reactions and kinetics of unsaturated C2 hydrocarbon radicals." *Chem Rev* 104 (6): 2813-2832.
- Lawall JR. 2005. "Fabry-Perot metrology for displacements up to 50 mm." *Journal of the Optical Society of America. A, Optics, Image Science, and Vision* 22 (12): 2786-2798.
- Lawn BR. 2001. "An engineering perspective of dental layer structures." *Journal of Dental Research* 80 (4): 980.
- Lawn BR, Deng Y, Thompson VP. 2001. "Use of contact testing in the characterization and design of all-ceramic crownlike layer structures: A review." *Journal of Prosthetic Dentistry* 86 (5): 495-510.
- Lawn BR. 2002. "Ceramic-based layer structures for biomechanical applications." *Current Opinion in Solid State & Materials Science* 6(3): 229-235.
- Lawn BR, Deng Y, Lloyd IK, Janal MN, Rekow ED, Thompson VP. 2002. "Materials design of ceramic-based layer structures for crowns." *Journal of Dental Research* 81 (6): 433-438.
- Lawn BR, Deng Y, Miranda P, Pajares A, Chai H, Kim DK. 2002. "Overview: Damage in brittle layer structures from concentrated loads." *Journal of Materials Research* 17(12): 3019-3036.

- Lawn BR, Pajares A, Zhang Y, Deng Y, Polack MA, Lloyd IK, Rekow ED, Thompson VP. 2004. "Materials design in the performance of all-ceramic crowns." *Biomaterials* 25 (14): 2885-2892.
- Lee MS, Levin BC. 2002. "MitoAnalyzer, a computer program and interactive web site to determine the effects of single nucleotide polymorphisms and mutations in human mitochondrial DNA." *Mitochondrion* 1 (4): 321-326.
- Lee SH, Broholm C, Ratcliff W, Gasparovic G, Huang Q, Kim TH, Cheong SW. 2002. "Emergent excitations in a geometrically frustrated magnet." *Nature* 418 (6900): 856-858.
- Lee SH, Tranquada JM, Yamada K, Buttrey DJ, Li Q, Cheong SW. 2002. "Freezing of a stripe liquid." *Physical Review Letters* 88 (12): 126401.
- Lee SH, Louca D, Ueda H, Park S, Sato TJ, Isobe M, Ueda Y, Rosenkranz S, Zschack P, Iniguez J, Qiu Y, Osborn R. 2004. "Orbital and Spin Chains in ZnV₂O₄." *Physical Review Letters* 93 (15): 156407.
- Lehman JH, Cromer CL. 2002. "Optical trap detector for calibration of optical fiber powermeters: coupling efficiency." *Applied Optics* 41 (31): 6531-6536.
- Lehman JH, Engtrakul C, Gennett T, Dillon AC. 2005. "Single-wall carbon nanotube coating on a pyroelectric detector." *Applied Optics* 44 (4): 483-488.
- Lehmann C, Lim K, Toedt J, Krajewski W, Howard A, Eisenstein E, Herzberg O. 2002. "Structure of 2C-methyl-D-erythrol-2,4-cyclodiphosphate synthase from haemophilus influenzae: Activation by conformational transition." *Proteins-Structure Function and Genetics* 49 (1): 135-138.
- Lehmann C, Lim K, Chalamasetty VR, Krajewski W, Melamud E, Galkin A, Howard A, Kelman Z, Reddy PT, Murzin AG, Herzberg O. 2003. "The HI0073/HI0074 protein pair from Haemophilus influenzae is a member of a new nucleotidyltransferase family: Structure, sequence analyses, and solution studies." *Proteins-Structure Function and Genetics* 50 (2): 249-260.
- Leibfried D, Barrett MD, Schaetz T, Britton J, Chiaverini J, Itano WM, Jost JD, Langer C, Wineland DJ. 2004. "Toward Heisenberg-limited spectroscopy with multiparticle entangled states." *Science* 304 (5676): 1476-1478.
- Leibfried D, Knill E, Seidelin S, Britton J, Blakestad RB, Chiaverini J, Hume DB, Itano WM, Jost JD, Langer C, Ozeri R, Reichle R, Wineland DJ. 2005. "Creation of a six-atom 'Schrodinger cat' state." *Nature* 438 (7068): 639-642.
- Letcher RJ, McKinney M, Stapleton HM, Verreault J, Gabrielsen G, Scipione F, Chu SG, Valters K. 2004. "Biotransformation and persistent metabolites of organohalogen contaminants in model marine and aquatic wildlife and populations." *Drug Metabolism Reviews* 36: 25.
- Levin BC, Cheng H, Kline MC, Redman JW, Richie KL. 2001. "A review of the DNA standard reference materials developed by the National Institute of Standards and Technology." *Fresenius' Journal of Analytical Chemistry* 370 (2-3): 213-219.

Levin BC, Holland KA, Hancock DK, Coble M, Parsons TJ, Kienker LJ, Williams DW, Jones M, Richie KL. 2003. "Comparison of the complete mtDNA genome sequences of human cell lines - HL-60 and GM 10742A - from individuals with pro-myelocytic leukemia and leber hereditary optic neuropathy, respectively, and the inclusion of HL-60 in the NIST human mitochondrial DNA standard reference material - SRM 2392-I." *Mitochondrion* 2 (6): 387-400.

Levin BC, Sekiguchi K, Tully LA, Chen TL, Gropman A. 2005. "The common deletion found in patient reexamined after 33 years and comparison with complete mtDNA sequences of maternal relatives." *Mitochondrion* 5 (6): 403-410.

Levine ZH. 2005. "The boundary of X-ray and electron tomography." 5674: 1-14.

Levine LE, Long GG. 2004. "X-ray imaging with ultra-small-angle X-ray scattering as a contrast mechanism." *Journal of Applied Crystallography* 37: 757-765.

Li G, Martinez C, Semancik S. 2005. "Controlled electrophoretic patterning of polyaniline from a colloidal suspension." *Journal of the American Chemical Society* 127 (13): 4903-4909.

Liggett WS, Barker PE, Semmes OJ, Cazares LH. 2004. "Measurement reproducibility in the early stages of biomarker development." *Disease Markers* 20 (6): 295-307.

Lim K, Zhang H, Tempczyk A, Bonander N, Toedt J, Howard A, Eisenstein E, Herzberg O. 2001. "Crystal structure of YecO from *Haemophilus influenzae* (HI0319) reveals a methyltransferase fold and a bound S-adenosylhomocysteine." *Proteins-Structure Function and Genetics* 45 (4): 397-407.

Lim K, Tempczyk A, Bonander N, Toedt J, Howard A, Eisenstein E, Herzberg O. 2003. "A catalytic mechanism for D-Tyr-tRNA(Tyr) deacylase based on the crystal structure of *Haemophilus influenzae* HI0670." *Journal of Biological Chemistry* 278 (15): 13496-13502.

Lim K, Tempczyk A, Parsons JF, Bonander N, Toedt J, Kelman Z, Howard A, Eisenstein E, Herzberg O. 2003. "Crystal structure of YbaB from *Haemophilus influenzae* (HI0442), a protein of unknown function coexpressed with the recombinational DNA repair protein RecR." *Proteins-Structure Function and Genetics* 50 (2): 375-379.

Lim K, Zhang H, Tempczyk A, Krajewski W, Bonander N, Toedt J, Howard A, Eisenstein E, Herzberg O. 2003. "Structure of the YibK methyltransferase from *Haemophilus influenzae* (HI0766): A cofactor bound at a site formed by a knot." *Proteins-Structure Function and Genetics* 51 (1): 56-67.

Lim P, Wuenschell GE, Holland V, Lee DH, Pfeifer GP, Rodriguez H, Termini J. 2004. "Peroxyl radical mediated oxidative DNA base damage: Implications for lipid peroxidation induced mutagenesis." *Biochemistry* 43 (49): 15339-15348.

Lin EK, Soles CL, Goldfarb DL, Trinqu BC, Burns SD, Jones RL, Lenhart JL, Angelopoulos M, Willson CG, Satija SK, Wu WL. 2002. "Direct measurement of the reaction front in chemically amplified photoresists." *Science* 297 (5580): 372-375.

Lin Z, Berne A, Cummings B, Filliben JJ, Inn KG. 2002. "Competence of alpha spectrometry analysis algorithms used to resolve the 241Am and 243Am alpha peak overlap." *Applied*

Radiation and Isotopes: Including Data, Instrumentation and Methods for Use in Agriculture, Industry and Medicine 56 (1-2): 57-63.

Lin-Gibson S, Bencherif S, Cooper JA, Wetzel SJ, Antonucci JM, Vogel BM, Horkay F, Washburn NR. 2004. "Synthesis and characterization of PEG dimethacrylates and their hydrogels." *Biomacromolecules* 5 (4): 1280-1287.

Lin-Gibson S, Jones RL, Washburn NR, Horkay F. 2005. "Structure-property relationships of photopolymerizable poly(ethylene glycol) dimethacrylate hydrogels." *Macromolecules* 38: 2897-2902.

Lin-Gibson S, Walls HJ, Kennedy SB, Welsh ER. 2003. "Reaction kinetics and gel properties of blocked diisocyanate crosslinked chitosan hydrogels." *Carbohydrate Polymers* 54: 193-199.

Lippa KA, Sander LC, Wise SA. 2004. "Chemometric studies of polycyclic aromatic hydrocarbon shape selectivity in reversed-phase liquid chromatography." *Analytical and Bioanalytical Chemistry* 378 (2): 365-377.

Lippa KA, Sander LC, Mountain RD. 2005. "Molecular dynamics simulations of alkylsilane stationary-phase order and disorder. 2. Effects of temperature and chain length." *Analytical Chemistry* 77 (24): 7862-7871.

Lippa KA, Sander LC, Mountain RD. 2005. "Molecular dynamics simulations of alkylsilane stationary-phase order and disorder. 1. Effects of surface coverage and bonding chemistry." *Analytical Chemistry* 77 (24): 7852-7861.

Lipson DA, Roberts DA, Hansen-Flaschen J, Gentile TR, Jones G, Thompson A, Dimitrov IE, Palevsky HI, Leigh JS, Schnall M, Rizi RR. 2002. "Pulmonary ventilation and perfusion scanning using hyperpolarized helium-3 MRI and arterial spin tagging in healthy normal subjects and in pulmonary embolism and orthotopic lung transplant patients." *Magnetic Resonance in Medicine* 47 (6): 1073-1076.

Locascio LE, Hong JS, Gaitan M. 2002. "Liposomes as signal amplification reagents for bioassays in microfluidic channels." *Electrophoresis* 23 (5): 799-804.

Locascio LE. 2004. "Microfluidic mixing." *Analytical and Bioanalytical Chemistry* 379 (3): 325-327.

Long SE, Kelly WR. 2002. "Determination of mercury in coal by isotope dilution cold-vapor generation inductively coupled plasma mass spectrometry." *Analytical Chemistry* 74 (7): 1477-1483.

Lu H, Stansbury JW, Dickens SH, Eichmiller FC, Bowman CN. 2004. "Probing the origins and control of shrinkage stress in dental resin composites. II. Novel method of simultaneous measurement of polymerization shrinkage stress and conversion." *Journal of Biomedical Materials Research Part B-Applied Biomaterials* 71B (1): 206-213.

- Lucas L, Pibida L, Unterweger M, Karam L. 2005. "Gamma-ray emitting test sources for portal monitors used for homeland security." *Radiation Protection Dosimetry* 113 (1): 108-111.
- Luchette PA, Vetman TN, Prosser RS, Hancock REW, Nieh MP, Glinka CJ, Krueger S, Katsaras J. 2001. "Morphology of fast-tumbling bicelles: a small angle neutron scattering and NMR study." *Biochimica Et Biophysica Acta-Biomembranes* 1513 (2): 83-94.
- Lyon GE, Mink A, Van Dyck RE. 2005. "Toward an architectural framework to improve accountability in the use of electronic records." NISTIR 7157.
<http://w3.antd.nist.gov/pubs05.shtml>.
- Ma CM, Coffey CW, DeWerd LA, Liu C, Nath R, Seltzer SM, Seuntjens JP. 2001. "AAPM protocol for 40-300 kV x-ray beam dosimetry in radiotherapy and radiobiology." *Medical Physics* 28 (6): 868-893.
- Ma L, Song J, Whitenton E, Zheng A, Vorburger T, Zhou J. 2004. "NIST bullet signature measurement system for RM (Reference Material) 8240 standard bullets." *Journal of Forensic Sciences* 49 (4): 649-659.
- MacCrehan WA, Patierno ER, Duewer DL, Reardon MR. 2001. "Investigating the effect of changing ammunition on the composition of organic additives in gunshot residue (OGSR)." *Journal of Forensic Sciences* 46 (1): 57-62.
- MacCrehan WA, Reardon MR. 2002. "A qualitative comparison of smokeless powder measurements." *Journal of Forensic Sciences* 47 (5): 996-1001.
- MacCrehan WA, Reardon MR, Duewer DL. 2002. "Associating gunpowder and residues from commercial ammunition using compositional analysis." *Journal of Forensic Sciences* 47 (2): 260-266.
- MacCrehan WA, Reardon MR, Duewer DL. 2002. "A quantitative comparison of smokeless measurements." *Journal of Forensic Sciences* 47 (6): 1283-1287.
- MacCrehan WA, Layman MJ, Secl JD. 2003. "Hair combing to collect organic gunshot residues (OGSR)." *Forensic Science International* 135 (2): 167-173.
- MacCrehan WA, Bedner M, Helz GR. 2005. "Making chlorine greener: performance of alternative dechlorination agents in wastewater." *Chemosphere* 60 (3): 381-388.
- Mackey EA, Oflaz RD, Epstein MS, Buehler B, Porter BJ, Rowles T, Wise SA, Becker PR. 2003. "Elemental composition of liver and kidney tissues of rough-toothed dolphins (*Steno bredanensis*)." *Archives of Environmental Contamination and Toxicology* 44 (4): 523-532.
- Mahoney CM, Roberson SV, Gillen G. 2004. "Depth profiling of 4-acetaminophenol-doped poly(lactic acid) films using cluster secondary ion mass spectrometry." *Analytical Chemistry* 76 (11): 3199-3207.

Mahoney CM, Yu J, Gardella JA, Jr. 2005. "Depth profiling of poly(L-lactic acid)/triblock copolymer blends with time-of-flight secondary ion mass spectrometry." *Analytical Chemistry* 77 (11): 3570-3578.

Mambo E, Chatterjee A, de Souza-Pinto NC, Mayard S, Hogue BA, Joque MO, Dizdaroglu M, Bohr VA, Sidransky D. 2005. "Oxidized guanine lesions and hOgg1 activity in lung cancer." *Oncogene* 24 (28): 4496-4508.

Mamontov E. 2004. "Dynamics of surface water in ZrO₂ studied by quasielastic neutron scattering." *The Journal of Chemical Physics* 121 (18): 9087-9097.

Mamontov E. 2005. "Observation of fragile-to-strong liquid transition in surface water in CeO₂." *The Journal of Chemical Physics* 123 (17): 171101.

Mamontov E. 2005. "High-resolution neutron-scattering study of slow dynamics of surface water molecules in zirconium oxide." *The Journal of Chemical Physics* 123 (2): 24706.

Mamontov E, Kumzerov YA, Vakhrushev SB. 2005. "Diffusion of benzene confined in the oriented nanochannels of chrysotile asbestos fibers." *Physical Review. E, Statistical, Nonlinear, and Soft Matter Physics* 72 (5 Pt 1): 051502.

Mamontov E, Kumzerov YA, Vakhrushev SB. 2005. "Translational dynamics of water in the nanochannels of oriented chrysotile asbestos fibers." *Physical Review. E, Statistical, Nonlinear, and Soft Matter Physics* 71 (6 Pt 1): 061502.

Manderville RA, Calcutt MW, Dai J, Park G, Gillman IG, Nofle RE, Mohammed AK, Dizdaroglu M, Rodriguez H, Akman SA. 2003. "Stoichiometric preference in copper-promoted oxidative DNA damage by ochratoxin A." *Journal of Inorganic Biochemistry* 97 (2): 249.

Manderville RA, Calcutt MW, Dai J, Park G, Gillman IG, Nofle RE, Mohammed AK, Dizdaroglu M, Rodriguez H, Akman SA. 2003. "Stoichiometric preference in copper-promoted oxidative DNA damage by ochratoxin A." *Journal of Inorganic Biochemistry* 95 (2-3): 87-96.

Mankani MH, Kuznetsov SA, Fowler B, Kingman A, Robey PG. 2001. "In vivo bone formation by human bone marrow stromal cells: Effect of carrier particle size and shape." *Biotechnology and Bioengineering* 72 (1): 96-107.

Mann JL, Kelly WR, MacDonald BS. 2002. "Observations of anomalous mass-loss behavior in SRM coals and cokes on drying." *Analytical Chemistry* 74 (15): 3585-3591.

Manzello SL, Lee EJ, Mulholland GW. 2005. "Use of laser-induced ionization to detect soot inception in premixed flames." *Applied Optics* 44 (24): 5105-5111.

Margolis SA, Mele T. 2001. "Systematic bias in the measurement of water in oils by tubular oven evaporation and azeotropic distillation." *Analytical Chemistry* 73 (20): 4787-4792.

Margolis SA, Park E. 2001. "Stability of ascorbic acid in solutions stored in autosampler vials." *Clinical Chemistry* 47 (8): 1463-1464.

Margolis SA, Angelo JB. 2002. "Interlaboratory assessment of measurement precision and bias in the coulometric Karl Fischer determination of water." *Analytical and Bioanalytical Chemistry* 374 (3): 505-512.

Margolis SA, Paulsen J, Park E. 2002. "A coulometric method for determining substances that interfere with the measurement of water in oils and other chemicals by the Karl Fischer method." *Analytical and Bioanalytical Chemistry* 374 (7-8): 1274-1281.

Margolis SA, Hagwood C. 2003. "The determination of water in crude oil and transformer oil reference materials." *Analytical and Bioanalytical Chemistry* 376 (2): 260-269.

Margolis SA, Vangel M, Duewer DL. 2003. "Certification of standard reference material 970, ascorbic acid in serum, and analysis of associated interlaboratory bias in the measurement process." *Clinical Chemistry* 49 (3): 463-469.

Margolis SA, Vaishnav K, Sieber JR. 2004. "Measurement of water by oven evaporation using a novel oven design. 2. Water in motor oils and motor oil additives." *Analytical and Bioanalytical Chemistry* 380 (5-6): 843-852.

Margolis SA, Vaishnav K, Sieber JR. 2004. "Measurement of water by oven evaporation using a novel oven design. 1. Water in water-saturated 1-octanol, coal, cement, and refined oils." *Analytical and Bioanalytical Chemistry* 380 (3): 556-562.

Marinenko R, Leigh S. 2004. "Heterogeneity evaluation of research materials for microanalysis standards certification." *Microscopy and Microanalysis : The Official Journal of Microscopy Society of America, Microbeam Analysis Society, Microscopical Society of Canada* 10 (4): 491-506.

Martinis JM, Nam S, Aumentado J, Urbina C. 2002. "Rabi oscillations in a large Josephson-junction qubit." *Physical Review Letters* 89 (11): 117901.

Mathew M., Takagi S. 2001. "Structures of biological minerals in dental research." *Journal of Research of the National Institute of Standards and Technology* 106(6): 1035-1044.

McAndrew PE, Rodriguez H, O'Connell C, Marino MA. 2002. "Monitoring the TP53 gene to detect genetic damage in tissue-engineered skin." *American Journal of Human Genetics* 71 (4): 327.

McDermott R, Lee S, ten Haken B, Trabesinger AH, Pines A, Clarke J. 2004. "Microtesla MRI with a superconducting quantum interference device." *Proceedings of the National Academy of Sciences of the United States of America* 101 (21): 7857-7861.

McDonough WG, Antonucci JM, Dunkers JP. 2001. "Interfacial shear strengths of dental resin-glass fibers by the microbond test." *Dental Materials* 17 (6): 492-498.

McDonough WG, Antonucci JM, He J, Shimada Y, Chiang MY, Schumacher GE, Schultheisz CR. 2002. "A microshear test to measure bond strengths of dentin-polymer interfaces." *Biomaterials* 23 (17): 3603-3608.

- McGillivray DJ, Valincius G, Vanderah DJ, Woodward JT, Kasianowicz JJ, Loesche M. 2005. "Solid-supported lipid membranes for protein incorporation." *Biophysical Journal* 88 (1): 369A-370A.
- McGruder BM, Jakupciak J. 2005. "Real-time cancer assay as alternative for lengthy telomerase repeat amplification protocol (TRAP)." *The FASEB Journal* 19 (4): A309-A310.
- Mei Y, Kumar A, Gao W, Gross R, Kennedy SB, Washburn NR, Amis EJ, Elliott JT. 2004. "Compatibility of sorbitol-containing polyesters. Part I: Synthesis, surface analysis and cell response in vitro." *Biomaterials* 25 (18): 4195-4201.
- Mei Y, Wu T, Xu C, Langenbach KJ, Elliott JT, Beers, KL, Henderson LA. 2005. "Control of protein adsorption and cell adhesion: effect of polymer grafting density. 2005. *American Chemical Society National Meeting, Polymer Preprint*.
- Menotti-Raymond MA, David VA, Wachter LL, Butler JM, O'Brien SJ. 2005. "An STIR forensic typing system for genetic individualization of domestic cat (*Felis catus*) samples." *Journal of Forensic Sciences* 50 (5): 1061-1070.
- Meredith JC, Sormana JL, Keselowsky BG, Garcia AJ, Tona A, Karim A, Amis EJ. 2003. "Combinatorial characterization of cell interactions with polymer surfaces." *Journal of Biomedical Materials Research Part A* 66A (3): 483-490.
- Merzlyak PG, Capistrano MFP, Valeva A, Kasianowicz JJ, Krasilnikov OV. 2005. "Conductance and ion selectivity of a mesoscopic protein nanopore probed with cysteine scanning mutagenesis." *Biophysical Journal* 89 (5): 3059-3070.
- Meuse CW, Vrettos JS. 2004. "Infrared techniques for quantifying protein structural stability." *Protein Science* 13: 237.
- Michaels CA, Gu X, Chase DB, Stranick SJ. 2004. "Near-field infrared imaging and spectroscopy of a thin film polystyrene/poly(ethyl acrylate) blend." *Applied Spectroscopy* 58 (3): 257-263.
- Mighell AD. 2003. "Conventional cells: monoclinic I- and C-centered cells." *Acta Crystallographica. Section B, Structural Science* 59 (Pt 2): 300-302.
- Migler KB. 2001. "String formation in sheared polymer blends: coalescence, breakup, and finite size effects." *Physical Review Letters* 86 (6): 1023-1026.
- Mihailescu M, Castro-Roman F, White S, Worcester D, Majkrzak C. 2005. "Neutron diffraction and MD simulation in conjunction for determining lipid bilayer structure." *Biophysical Journal* 88 (1): 243A.
- Miller CE, Majewski J, Faller R, Satija S, Kuhl TL. 2004. "Cholera toxin assault on lipid monolayers containing ganglioside GM(1)." *Biophysical Journal* 86 (6): 3700-3708.

- Miller CE, Majewski J, Kjaer K, Weygand M, Faller R, Satija S, Kuhl TL. 2005. "Neutron and X-ray scattering studies of cholera toxin interactions with lipid monolayers at the air-liquid interface." *Colloids and Surfaces B-Biointerfaces* 40 (3-4): 159-163.
- Miller KE, Bruno TJ. 2002. "Enthalpy of fuel gas odorants on surrogate soil surfaces by gas chromatography." *Journal of Chromatography A* 975 (2): 311-318.
- Miller KE, Bruno TJ. 2003. "Isothermal Kovats retention indices of sulfur compounds on a poly(5% diphenyl-95% dimethylsiloxane) stationary phase." *Journal of Chromatography A* 1007 (1-2): 117-125.
- Miller SD, Murphy MK, Tinker MR, Kovacs A, McLaughlin W. 2002. "Characteristics and performance of the Sunna high dose dosimeter using green photoluminescence and UV absorption readout methods." *Radiation Protection Dosimetry* 101 (1-4): 53-58.
- Minniti RM. 2005. "Technical aspects of the NIST proficiency tests during the accreditation process." *Health Physics* 89 (1): S44.
- Minniti RM, Pibida L, O'Brien M, Unterweger M. "Measurement of the response of radiation detection instruments at the NIST." 2004. *Proceedings of the 11th International Conference of the International Radiation Protection Association IRPA*, Madrid.
- Mirowski E, Moreland J, Russek SR, Donahue MJ. 2004. "Confined rotational manipulation of magnetic beads by a magnetic tweezers platform based on an array of spin-valve traps." *Biophysical Journal* 86 (1): 600A.
- Misakian M, Kasianowicz JJ, Robertson B, Petersons O. 2001. "Frequency response of alternating currents through the Staphylococcus aureus alpha-hemolysin ion channel." *Bioelectromagnetics* 22 (7): 487-493.
- Misakian M, Kasianowicz JJ. 2003. "Electrostatic influence on ion transport through the alpha HL channel." *Journal of Membrane Biology* 195 (3): 137-146.
- Mitch M, Lamperti P, Seltzer S, Coursey B. 2002. "New methods for anisotropy characterization of Pd-103 and I-125 prostate brachytherapy seed emissions using radiochromic film and angular x-ray spectrometry." *Medical Physics* 29 (6): 1228.
- Mitch M, Seltzer S, Coursey B. 2002. "A secondary calibration laboratory well-chamber calibration proficiency test for Ir-192 ribbon sources used in intravascular brachytherapy." *Medical Physics* 29 (6): 1227.
- Mitch M, Lamperti P, Seltzer S. 2003. "Influence of anisotropy of emissions and emergent spectrum on the relation of secondary to primary air-kerma-strength standards for prostate brachytherapy seeds." *Medical Physics* 30 (6): 1429.
- Mitch M, Seltzer S. 2005. "Using x-ray spectrometry to quantify the effects of emission anisotropy on air-kerma-strength measurements of prostate brachytherapy seeds." *Medical Physics* 32 (6): 2129.

- Mo L, Avci B, James D, Simpson B, Van Wyngaardt WM, Cessna JT, Baldock C. 2005. "Development of activity standard for Y-90 microspheres." *Applied Radiation and Isotopes* 63 (2): 193-199.
- Mobley J, Waters K, Miller J. 2005. "Causal determination of acoustic group velocity and slope-of-attenuation with finite bandwidth Kramers-Kronig relations." *Physical Review E* 72: 16604-1-5.
- Mobley J, Waters KR, Miller JG. 2003. "Finite-bandwidth effects on the causal prediction of ultrasonic attenuation of the power-law form." *Journal of the Acoustical Society of America* 114: 2782-2790.
- Mohr PJ. 2005. "The fundamental constants and theory." *Philosophical Transactions. Series A, Mathematical, Physical, and Engineering Sciences* 363 (1834): 2123-2137.
- Morales-Ruiz T, Birincioglu M, Jaruga P, Rodriguez H, Roldan-Arjona T, Dizdaroglu M. 2003. "Arabidopsis thaliana Ogg1 protein excises 8-hydroxyguanine and 2,6-diamino-4-hydroxy-5-formamidopyrimidine from oxidatively damaged DNA containing multiple lesions." *Biochemistry* 42 (10): 3089-3095.
- Mountain RD, Thirumalai D. 2003. "Molecular dynamics simulations of end-to-end contact formation in hydrocarbon chains in water and aqueous urea solution." *Journal of the American Chemical Society* 125 (7): 1950-1957.
- Mourtada F, Soares CG, Seltzer SM, Bergstrom PM, Fernandez-Verea JM, Asenjo J, Lott SH. 2003. "Dosimetry characterization of a P-32 source wire used for intravascular brachytherapy with automated stepping." *Medical Physics* 30 (5): 959-971.
- Mourtada F, Soares C, Horton J. 2004. "A segmented 32P source Monte Carlo model to derive AAPM TG-60 dosimetric parameters used for intravascular brachytherapy." *Medical Physics* 31 (6): 1745.
- Mueller HJ. 2001. "In vitro tarnish and corrosion of a consolidated silver material for direct filling applications." *Dental Materials* 17 (1): 60-70.
- Mueller HJ, Hirthe RW. 2001. "Electrochemical characterization and immersion corrosion of a consolidated silver dental biomaterial." *Biomaterials* 22 (19): 2635-2646.
- Mukhopadhyay A, Wei BX, Zullo SJ, Wood LV, Weiner H. 2002. "In vitro evidence of inhibition of mitochondrial protease processing by HIV-1 protease inhibitors in yeast: a possible contribution to lipodystrophy syndrome." *Mitochondrion* 1 (6): 511-518.
- Murphy MK, Piper RK, Greenwood LR, Mitch MG, Lamperti PJ, Seltzer SM, Bales MJ, Phillips MH. 2004. "Evaluation of the new cesium-131 seed for use in low-energy x-ray brachytherapy." *Medical Physics* 31 (6): 1529-1538.
- Myszkra D, Abdiche Y, Arisaka F, Byron O, Eisenstein E, Hensley P, Thomson J, Lombardo C, Schwarz F, Stafford W, Doyle M. 2003. "The MIRC 2002 study: assembly state, thermodynamic, and kinetic analysis of an enzyme/inhibitor interaction" *Journal of Biomolecular Techniques* 14: 247-269.

- Nag V, Sholom SV, Chumak VV, Desrosiers MF. 2002. "Uncertainties in alanine dosimetry in the therapeutic dose range." *Applied Radiation and Isotopes: Including Data, Instrumentation and Methods for Use in Agriculture, Industry and Medicine* 56 (6): 917-929.
- Nagarajan VS, Jahanmir S, Thompson VP. 2004. "In vitro contact wear of dental composites." *Dental Materials* 20 (1): 63-71.
- Nath R, Chiu-Tsao S, Schaart D, Soares C. 2004. "Recommended dose calculation formalism and consensus dosimetry parameters for intravascular brachytherapy dosimetry." *Medical Physics* 31 (6): 1744-1745.
- Nelson BC. 2001. "Making health care more affordable." *Chemical & Engineering News* 79 (13): 288.
- Nelson BC. 2001. "The connection between biological and chemical standard reference materials and the national health care system." *Chemical and Engineering News* 79: 288.
- Nelson BC, Dalluge JJ, Margolis SA. 2001. "Preliminary application of liquid chromatography-electrospray-ionization mass spectrometry to the detection of 5-methyltetrahydrofolic acid monoglutamate in human plasma." *Journal of Chromatography B* 765 (2): 141-150.
- Nelson BC, Pfeiffer CM, Nelson CP. 2002. "Determination of 5-methyltetrahydrofolic acid in plasma by solid phase affinity extraction and liquid chromatography/electrospray-ionization mass spectrometry." *The FASEB Journal* 16 (4): A541.
- Nelson BC, Satterfield M. 2002. "Development and critical evaluation of LC/MS and LC/MS/MS methods for the determination of total homocysteine in human plasma." *The FASEB Journal* 16 (4): A541.
- Nelson BC, Pfeiffer CM, Margolis SA, Nelson CP. 2003. "Affinity extraction combined with stable isotope dilution LC/MS for the determination of 5-methyltetrahydrofolate in human plasma." *Analytical Biochemistry* 313 (1): 117-127.
- Nelson BC, Sharpless KE. 2003. "Quantification of the predominant monomeric catechins in baking chocolate standard reference material by LC/APCI-MS." *Journal of Agricultural and Food Chemistry* 51 (3): 531-537.
- Nelson BC, Pfeiffer CM, Margolis SA, Nelson CP. 2004. "Solid-phase extraction-electrospray ionization mass spectrometry for the quantification of folate in human plasma or serum." *Analytical Biochemistry* 325 (1): 41-51.
- Nelson BC, Satterfield MB, Sniegowski LT, Welch MJ. 2005. "Simultaneous quantification of homocysteine and folate in human serum or plasma using liquid chromatography/tandem mass spectrometry." *Analytical Chemistry* 77 (11): 3586-3593.

- Nelson BC, Satterfield MB, Sniegowski LT, Zhang N, Hornikova A, Pfeiffer CM, Welch MJ. 2005. "Development of a serum-based standard reference material with certified values for homocysteine and folate." *Clinical Chemistry* 51: A194.
- Nelson BC, Sniegowski LT, Welch MJ, Satterfield MB. 2005. "Analytical quantification of total homocysteine and folate in human serum in relation to cardiovascular disease risk assessment and prevention." *The FASEB Journal* 19 (4): A264.
- Nelson BC, Pfeiffer CM, Sniegowski LT, Satterfield MB. 2003. "Development and evaluation of an isotope dilution LC/MS method for the determination of total homocysteine in human plasma." *Analytical Chemistry* 75: 775-784.
- Newbury DE. 2004. "Quantitative electron probe microanalysis of rough targets: testing the peak-to-local background method." *Scanning* 26 (3): 103-114.
- Newbury DE. 2005. "X-ray spectrometry and spectrum image mapping at output count rates above 100 kHz with a silicon drift detector on a scanning electron microscope." *Scanning* 27 (5): 227-239.
- Newbury DE, Bright DS. 2005. "'Derived spectra' software tools for detecting spatial and spectral features in spectrum images." *Scanning* 27 (1): 15-22.
- Newbury NR, Washburn BR, Corwin KL, Windeler RS. 2003. "Noise amplification during supercontinuum generation in microstructure fiber." *Optics Letters* 28 (11): 944-946.
- Niaura G, Reipa V, Mayhew MP, Holden M, Vilker VL. 2003. "Structural alterations of the heme environment of cytochrome P450cam and the Y96F mutant as deduced by resonance Raman spectroscopy." *Archives of Biochemistry and Biophysics* 409 (1): 102-112.
- Nieh MP, Glinka CJ, Krueger S, Prosser RS, Katsaras J. 2002. "SANS study on the effect of lanthanide ions and charged lipids on the morphology of phospholipid mixtures." *Biophysical Journal* 82 (5): 2487-2498.
- Nieh MP, Glinka CJ, Krueger S, Prosser RS, Katsaras J. 2002. "SANS study on the effect of lanthanide ions and charged lipids on the morphology of phospholipid mixtures. Small-angle neutron scattering." *Biophysical Journal* 82 (5): 2487-2498.
- Nieh MP, Glinka CJ, Katsaras J. 2003. "Spontaneously formed monodispersed unilamellar vesicles for controlled drug delivery." *Biophysical Journal* 84 (2): 134A.
- Nieh MP, Raghunathan VA, Glinka CJ, Wang H, Katsaras J. 2003. "A metastable aligned lamellar phase, populated with defects lying on a two-dimensional lattice and induced by macroscopic confinement." *Biophysical Journal* 84 (2): 368A.
- Nieh MP, Harroun TA, Raghunathan VA, Glinka CJ, Katsaras J. 2004. "Spontaneously formed monodisperse biomimetic unilamellar vesicles: The effect of charge, dilution, and time." *Biophysical Journal* 86 (4): 2615-2629.

- Niroomand-Rad A, Chiu-Tsao ST, Soares CG, Meigooni AS, Kirov AS. 2005. "Comparison of uniformity of dose response of double layer radiochromic films (MD-55-2). Measured at 5 institutions." *Physica Medica* 21 (1): 15-21.
- Nixon BT, Yennawar HP, Doucleff M, Pelton JG, Wemmer DE, Krueger S, Kondrashkina E. 2005. "SAS solution structures of the apo and Mg (2+)/BeF₃--bound receiver domain of DctD, from *Sinorhizobium meliloti*." *Biochemistry* 44 (42): 13962-13969.
- Noble JE, Wang L, Cole KD, Gaigalas AK. 2005. "The effect of overhanging nucleotides on fluorescence properties of hybridising oligonucleotides labelled with Alexa-488 and FAM fluorophores." *Biophysical Chemistry* 113 (3): 255-263.
- Norris JE, Band AH, Biss RJ, Guenther FR. 2004. "Upgrade and intercomparison of the U.S. Environmental Protection agencies ozone reference standards." *Proceedings of the Air and Waste Management Association 97th Annual Conference*: 437-449.
- O'Connell C, Barker PE, Marino M, McAndrew P, Atha DH, Jaruga P, Birincioglu M, Dizdaroglu, M, Rodriguez H. 2003. "Biomarkers used to detect genetic damage in tissue engineered skin." In: *Advances in Experimental Medicine and Biology*. Elcin YM (ed): 137-145.
- O'Connell CD, Tully LA, Devaney JM, Marino MA, Jakupciak JP, Atha DH. 2003. "Renewable standard reference material for the detection of TP53 mutations." *Molecular Diagnosis* 7 (2): 85-97.
- O'Donovan KV, Borchers JA, Majkrzak CF, Hellwig O, Fullerton EE. 2002. "Pinpointing chiral structures with front-back polarized neutron reflectometry." *Physical Review Letters* 88 (6): 067201.
- Ogasawara Y, Nakayama K, Tarnowka M, McCoy JP, Molldrem JJ, Levin BC, Kajigaya S, Young NS. 2004. "Mitochondrial DNA (mtDNA) sequence heterogeneity among and within single human CD34 cells, T cells, B cells and granulocytes." *Blood* 104 (11): 879A.
- Ogasawara Y, Nakayama K, Tarnowka M, McCoy JP, Kajigaya S, Levin BC, Young NS. 2005. "Mitochondrial DNA spectra of single human CD34(+) cells, T cells, B cells, and granulocytes." *Blood* 106 (9): 3271-3284.
- Olsen KG, Ross DJ, TarlovMJ. 2002. "Immobilization of DNA hydrogel plugs in microfluidic channels." *Analytic Chemistry* 74: 1436-1441.
- Osawa M, Ikura M. 2002. "[NMR-based approach for drug discovery]." *Tanpakushitsu Kakusan Koso* 47 (8 Suppl): 948-954.
- Ozeri R, Langer C, Jost JD, DeMarco B, Ben-Kish A, Blakestad BR, Britton J, Chiaverini J, Itano WM, Hume DB, Leibfried D, Rosenband T, Schmidt PO, Wineland DJ. 2005. "Hyperfine coherence in the presence of spontaneous photon scattering." *Physical Review Letters* 95 (3): 030403.
- Paliwal A, Bossev D, Paulaitis ME. 2004. "SANS study of high pressure unfolding of staphylococcal nuclease." *Biophysical Journal* 86 (1): 88A.

- Panchal RG, Halverson KM, Ribot W, Lane D, Kenny T, Abshire TG, Ezzell JW, Hoover TA, Powell B, Little S, Kasianowicz JJ, Bavari S. 2005. "Purified *Bacillus anthracis* lethal toxin complex formed in Vitro and during infection exhibits functional and biological activity." *Journal of Biological Chemistry* 280 (11): 10834-10839.
- Park YS, Yang SY, Wooley PH, Merritt K, Hsu S, McNallan MJ. 2001. "Bioactivity responses of different UHMWPE particles from in-vivo tests." *Material Research Society*.
- Parsons JF, Lim K, Tempczyk A, Krajewski W, Eisenstein E, Herzberg O. 2002. "From structure to function: YrbI from *Haemophilus influenzae* (HI1679) is a phosphatase." *Proteins-Structure Function and Genetics* 46 (4): 393-404.
- Parsons TJ, Coble MD, Hamm RS, O'Callaghan JE, Barritt SM. 2003. "Forensic SNP testing in the mtDNA genome." *Forensic Science International* 136: 60-61.
- Pathak JA, Davis MC, Hudson SD, Migler KB. 2002. "Layered droplet microstructures in sheared emulsions: finite-size effects." *Journal of Colloid and Interface Science* 255 (2): 391-402.
- Pathak JA, Ross D, Migler KB. 2004. "Elastic flow instability, curved streamlines and mixing in microfluidic flows" *Phys. Fluids* 16: 4028-4034.
- Paul RL, Simons DS, Guthrie WF, Lu J. 2003. "Radiochemical neutron activation analysis for certification of ion-implanted phosphorus in silicon." *Analytical Chemistry* 75 (16): 4028-4033.
- Pencer J, Krueger S, Epand R, Katsaras J. 2005. "Detection of submicron-sized domains or so-called "rafts" in membranes by small-angle neutron scattering." *Biophysical Journal* 88 (1): 76A.
- Pencer J, Mills T, Anghel V, Krueger S, Epand RM, Katsaras J. 2005. "Detection of submicron-sized raft-like domains in membranes by small-angle neutron scattering." *European Physical Journal E* 18 (4): 447.
- Pencer J, Nieh MP, Harroun TA, Krueger S, Adams C, Katsaras J. 2005. "Bilayer thickness and thermal response of dimyristoylphosphatidylcholine unilamellar vesicles containing cholesterol, ergosterol and lanosterol: A small-angle neutron scattering study." *Biochimica Et Biophysica Acta-Biomembranes* 1720 (1-2): 84-91.
- Perez-Andujar A, Pibida L. 2004. "Performance of CdTe, HPGe and NaI(Tl) detectors for radioactivity measurements." *Applied Radiation and Isotopes* 60 (1): 41-47.
- Perez-Salas UA, Krueger S, Woodson S, Rangan P, Georgieva E, Thirumalai D, Briber RM. 2002. "Folding pathways of RNA by cation binding." *Biophysical Journal* 82 (1): 132A.
- Perez-Salas UA, Rangan P, Krueger S, Briber RM, Thirumalai D, Woodson SA. 2004. "Compaction of a bacterial group I ribozyme coincides with the assembly of core helices." *Biochemistry* 43 (6): 1746-1753.

- Pernot M, Tanter M, Bercoff J, Waters KR, Fink M. 2004. "Temperature estimation using ultrasonic spatial compound imaging," *IEEE Transactions on Ultrasonics Ferroelectrics and Frequency Control* 51: 606-615.
- Phinney KW. 2001. "Sub- and supercritical fluid chromatography for enantiomer separations." *Chiral Separations: A Handbook for Practical Applications*: 299-315.
- Phinney KW. 2002. "Chiral separations." *Analytical and Bioanalytical Chemistry* 372 (1): 22.
- Phinney KW, Jackson JW, Sander LC. 2002. "Chiral recognition of functionalized cyclodextrins in capillary electrophoresis." *Electrophoresis* 23 (9): 1308-1313.
- Phinney KW, Sander LC. 2002. "Preliminary evaluation of a standard reference material for chiral stationary phases used in liquid and supercritical fluid chromatography." *Analytical and Bioanalytical Chemistry* 372 (1): 101-108.
- Phinney KW, Sander LC. 2003. "Enantioselective separations in capillary electrophoresis with dextran sulfate as the chiral selector." *Analytical and Bioanalytical Chemistry* 375 (6): 763-768.
- Phinney KW, Sander LC. 2003. "Additive concentration effects on enantioselective separations in supercritical fluid chromatography." *Chirality* 15 (4): 287-294.
- Phinney KW, Sander LC. 2004. "Liquid chromatographic method for the determination of enantiomeric composition of amphetamine and methamphetamine in hair samples." *Analytical and Bioanalytical Chemistry* 378 (1): 144-149.
- Phinney KW. 2005. "Enantioselective separations by packed column subcritical and supercritical fluid chromatography." *Analytical and Bioanalytical Chemistry* 382 (3): 639-645.
- Phinney KW, Ihara T, Sander LC. 2005. "Determination of ephedrine alkaloid stereoisomers in dietary supplements by capillary electrophoresis." *Journal of Chromatography A* 1077 (1): 90-97.
- Phinney KW, Sander LC. 2005. "Dynamically coated capillaries for enantioselective separations by capillary electrophoresis." *Chirality* 17: S65-S69.
- Pibida L, McMahon CA, Bushaw BA. 2004. "Laser resonance ionization mass spectrometry measurements of cesium in nuclear burn-up and sediment samples." *Applied Radiation and Isotopes* 60 (2-4): 567-570.
- Pibida L, Minniti R, O'Brien A, Unterweger A. 2005. "Test of radiation detectors used in homeland security applications." *Health Physics* 88 (5): S84-S90.
- Pipino AC, Hoefnagels JP, Watanabe N. 2004. "Absolute surface coverage measurement using a vibrational overtone." *The Journal of Chemical Physics* 120 (6): 2879-2888.
- Pipino AC, Woodward JT, Meuse CW, Silin V. 2004. "Surface-plasmon-resonance-enhanced cavity ring-down detection." *The Journal of Chemical Physics* 120 (3): 1585-1593.

- Pivovar AM, Tarek M. 2002. "Measuring protein dynamics with neutron scattering." *Biophysical Journal* 82 (1): 25A.
- Pivovar AM, Pivovar BS. 2005. "Dynamic Behavior of Water within a Polymer Electrolyte Fuel Cell Membrane at Low Hydration Levels." *The Journal of Physical Chemistry. B, Condensed Matter, Materials, Surfaces, Interfaces & Biophysical* 109 (2): 785-793.
- Plant AL, Horowitz E. 2005. "Symposium on metrology and standards for cell signaling: Impact on tissue engineering, National Institute for Standards and Technology, October 14-15, 2003." *Tissue Engineering* 11 (7-8): 985-990.
- Polk B, Bernard M, Kasianowicz JJ, Misakian M, Gaitan M. 2004. "Micro-electroplating silver on sharp edges toward the fabrication of solid-state nanopores." *Journal of the Electrochemical Society* 151: C559.
- Poplawski A, Grabowski B, Long SF, Kelman Z. 2001. "The zinc finger domain of the archaeal minichromosome maintenance protein is required for helicase activity." *Journal of Biological Chemistry* 276 (52): 49371-49377.
- Postek MT, Vladar AE, Lowney JR, Keery WJ. 2002. "Two-dimensional simulation and modeling in scanning electron microscope imaging and metrology research." *Scanning* 24 (4): 179-185.
- Poster DL, Chaychian M, Neta P, Huie RE, Silverman J, Al-Sheikhly M. 2003. "Degradation of PCBs in a marine sediment treated with ionizing and UV radiation." *Environmental Science & Technology* 37 (17): 3808-3815.
- Poster DL, Kantoglu O, Chaychian M, Neta P, Huie RE, Silverman J, Al-Sheikhly M. 2004. "Radiolytic degradation of chlorinated contaminants in marine sediment with food-grade surfactants." *Organohalogenes* 66: 1267-1272.
- Poster DL, Kucklick JR, Schantz MM, Porter BJ, Leigh SD, Wise SA. 2003. "Determination of polychlorinated biphenyl congeners and chlorinated pesticides in a fish tissue standard reference material." *Analytical and Bioanalytical Chemistry* 375 (2): 223-241.
- Poster DL, Lopez de Alda MJ, Schantz MM, Sander LC, Vangel MG, Wise SA. 2003. "Development and analysis of three diesel particulate-related Standard Reference Materials for the determination of chemical, physical, and biological characteristics." *Polycyclic Aromatic Compounds* 23 (2): 141-191.
- Poster DL, Schantz MM, Kucklick JR, de Alda MJL, Porter BJ, Pugh R, Wise SA. 2004. "Three new mussel tissue standard reference materials (SRMs) for the determination of organic contaminants." *Analytical and Bioanalytical Chemistry* 378 (5): 1213-1231.
- Poster DL, Schantz MM, Wise SA. 2005. "Polychlorinated biphenyl (PCB) mixtures in the laboratory: new Aroclor in methanol and transformer oil Standard Reference Materials (SRMs) for the determination of PCBs in water and environmental samples." *American Laboratory* 37 (16): 20-22.

- Posazhennikova AI, Indekeu JO, Ross D, Bonn D, Meunier J. 2003. "Cross-over between first-order and critical wetting at the liquid-vapour interface of n-alkane/methanol mixtures: tricritical wetting and critical prewetting." *Journal of Statistical Physics* 110: 611-658.
- Pradhan RD, Melikechi N, Eichmiller F. 2002. "The effect of irradiation wavelength bandwidth and spot size on the scraping depth and temperature rise in composite exposed to an argon laser or a conventional quartz-tungsten-halogen source." *Dental Materials* 18 (3): 221-226.
- Prasanna MD, Vondrasek J, Wlodawer A, Bhat TN. 2005. "Application of InChI to curate, index, and query 3-D structures." *Proteins-Structure Function and Bioinformatics* 60 (1): 1-4.
- Provenzano V, Shapiro AJ, Shull RD. 2004. "Reduction of hysteresis losses in the magnetic refrigerant Gd₅Ge₂Si₂ by the addition of iron." *Nature* 429 (6994): 853-857.
- Pugh RS, Becker PR. 2001. "Sea turtle contaminants: a review with annotated bibliography." *NISTIR* 6700.
- Pugh RS, Porter BJ, Becker PR, Wise SA. 2001. "National biomonitoring specimen bank NIST-Charleston Laboratory: clean room and specimen bank protocols." *NISTIR* 6752.
- Pugmire DL, Waddell EA, Haasch R, Tarlov MJ, Locascio LE. 2002. "Surface characterization of laser-ablated polymers used for microfluidics." *Analytical Chemistry* 74 (4): 871-878.
- Qasim T, Bush MB, Hu XZ, Lawn BR. 2005. "Contact damage in brittle coating layers: Influence of surface curvature." *Journal of Biomedical Materials Research Part B-Applied Biomaterials* 73B (1): 179-185.
- Qiu WG, Schisler N, Stoltzfus A. 2004. "The evolutionary gain of spliceosomal introns: sequence and phase preferences." *Molecular Biology and Evolution* 21:1252-1263.
- Quinn TP, Oreskovic TL, McCowan CN, Washburn NR. 2004. "Constitutive models for a poly (ε-caprolactone) scaffold." *Biomedical Sciences Instrumentation* 40: 249-254.
- Quinn JB, Quinn GD, Kelly JR, Scherrer SS. 2005. "Fractographic analyses of three ceramic whole crown restoration failures." *Dental Materials* 21 (10): 920-929.
- Quinn JB, Schultheis LW, Schumacher GE. 2005. "A tooth broken after laryngoscopy: unlikely to be caused by the force applied by the anesthesiologist." *Anesthesia and Analgesia* 100 (2): 594-596.
- Quinn JB, Sundar V, Lloyd IK. 2003. "Influence of microstructure and chemistry on the fracture toughness of dental ceramics." *Dental Materials* 19 (7): 603-611.
- Rabin MW, Hilton GC, Martinis JM. 2001. "Application of ion-impact energy measurement to electrospray ionization mass spectrometry of proteins and protein mixtures." *Journal of the American Society for Mass Spectrometry* 12 (7): 826-831.

Rabin MW, Swann WC, Gilbert SL. 2002. "Interleaved, sampled fiber Bragg gratings for use in hybrid wavelength references." *Applied Optics* 41 (34): 7193-7196.

Rahn RO, Stefan MI, Bolton JR, Goren E, Shaw PS, Lykke KR. 2003. "Quantum yield of the iodide-iodate chemical actinometer: Dependence on wavelength and concentration." *Photochemistry and Photobiology* 78 (2): 146-152.

Ramprakesh J, Schwarz FP. 2005. "Energetic differences between the specific binding of a 40 bp DNA duplex and the *lac* promoter to *lac* repressor protein" *Archives of Biochemistry and Biophysics* 438: 162-173.

Rao NM, Silin V, Ridge KD, Woodward JT, Plant AL. 2002. "Cell membrane hybrid bilayers containing the G-protein-coupled receptor CCR5." *Analytical Biochemistry* 307 (1): 117-130.

Ravichandran V, Lubell J, Vasquez GB, Lemkin P, Sriram RD, Gilliland GL. 2004. "Ongoing development of two-dimensional polyacrylamide gel electrophoresis data standards." *Electrophoresis* 25 (2): 297-308.

Ravichandran V, Sriram RD, Gilliland GL. 2004. "MitoMorph: an alignment and annotation tool for human mitochondrial DNA polymorphisms." *Mitochondrion* 4 (4): 309-312.

Ravichandran V, Vasquez GB, Srivastava S, Verma M, Petricoin E, Lubell J, Sriram RD, Barker PE, Gilliland GL. 2004. "Data standards for proteomics: mitochondrial two-dimensional polyacrylamide gel electrophoresis data as a model system." *Mitochondrion* 3 (6): 327-336.

Ravichandran V, Sriram RD. 2005. "Toward data standards for proteomics." *Nature Biotechnology* 23 (3): 373-376.

Reardon MR, MacCrehan WA. 2001. "Developing a quantitative extraction technique for determining the organic additives in smokeless handgun powder." *Journal of Forensic Sciences* 46 (4): 802-807.

Redd AJ, Agellon AB, Kearney VA, Contreras VA, Karafet T, Park H, de Knijff P, Butler JM, Hammer MF. 2002. "Forensic value of 14 novel STRs on the human Y chromosome." *Forensic Science International* 130 (2-3): 97-111.

Reddy P, Jaruga P, O'Connor T, Rodriguez H, Dizdaroglu M. 2004. "Overexpression and rapid purification of *Escherichia coli* formamidopyrimidine-DNA glycosylase." *Protein Expression and Purification* 34 (1): 126-133.

Reddy PT, Prasad CR, Reddy PH, Reeder D, McKenney K, Jaffe H, Dimitrova MN, Ginsburg A, Peterkofsky A, Murthy PS. 2003. "Cloning and expression of the gene for a novel protein from *Mycobacterium smegmatis* with functional similarity to eukaryotic calmodulin." *Journal of Bacteriology* 185 (17): 5263-5268.

Reddy SK, Kamireddi M, Dhanireddy K, Young L, Davis A, Reddy PT. 2001. "Eukaryotic-like adenylyl cyclases in *Mycobacterium tuberculosis* H37Rv - Cloning and characterization." *Journal of Biological Chemistry* 276 (37): 35141-35149.

Reilly CA, Crouch DJ, Yost GS, Fatah AA. 2001. "Determination of capsaicin, dihydrocapsaicin, and nonivamide in self-defense weapons by liquid chromatography-mass spectrometry and liquid chromatography-tandem mass spectrometry." *Journal of Chromatography A* 912 (2): 259-267.

Reilly CA, Crouch DJ, Yost GS, Fatah AA. 2002. "Determination of capsaicin, nonivamide, and dihydrocapsaicin in blood and tissue by liquid chromatography-tandem mass spectrometry." *Journal of Analytical Toxicology* 26 (6): 313-319.

Reipa V, Mayhew MP, Holden MJ, Vilker VL. 2002. "Redox control of the P450cam catalytic cycle: effects of Y96F active site mutation and binding of a non-natural substrate." *Chemical Communications (Cambridge, England)* (4): 318-319.

Reipa V. 2004. "Direct spectroelectrochemical titration of glutathione." *Bioelectrochemistry* 65 (1): 47-49.

Reipa V, Holden M, Mayhew MP, Vilker VL. 2004. "Temperature-induced structural changes in putidaredoxin: a circular dichroism and UV-VIS absorption study." *Biochimica Et Biophysica Acta-Proteins and Proteomics* 1699 (1-2): 229-234.

Reipa V, Shanklin J, Vilker V. 2004. "Substrate binding and the presence of ferredoxin affect the redox properties of the soluble plant Delta9-18:0-acyl carrier protein desaturase." *Chemical Communications (Cambridge, England)* (21): 2406-2407.

Reipa V. 2005. "Infrared and Raman spectroscopy characterization of biological products." *Developments in Biologicals* 122: 85-91.

Ren WP, Yang SY, Fang HW, Hsu S, Wooley PH. 2003. "Distinct gene expression of receptor activator of nuclear factor-kappa B and rank ligand in the inflammatory response to variant morphologies of UHMWPE particles." *Biomaterials* 24 (26): 4819-4826.

Reyes DR, Locascio LE, Gaitan M. 2005. "Polyelectrolyte multilayers." In: *Encyclopedia of Biomaterials and Biomedical Engineering*: 1-15.

Reyes DR, Perruccio EM, Becerra SP, Locascio LE, Gaitan M. 2004. "Micropatterning neuronal cells on polyelectrolyte multilayers." *Langmuir* 20 (20): 8805-8811.

Reyes DR, Perruccio EM, Becerra SP, Locascio LE, Gaitan M. 2003. "Patterning retinal cells on polyelectrolyte multilayers. *Proceedings of the Micro Total Analysis Systems*: 713-716.

Rhee HG, Vorburger TV, Lee JW, Fu J. 2005. "Discrepancies between roughness measurements obtained with phase-shifting and white-light interferometry." *Applied Optics* 44 (28): 5919-5927.

Rhoderick G, Chu P, Dolin E, Marks J, Howard T, Lytle M, McKenzie L, Altman D. 2001. "Development of perfluorocarbon (PFC) primary standards for monitoring of emissions from aluminum production." *Fresenius' Journal of Analytical Chemistry* 370 (7): 828-833.

Rhoderick GC. 2003. "Analysis of natural gas: the necessity of multiple standards for calibration." *Journal of Chromatography A* 1017 (1-2): 131-139.

- Rhoderick GC, Dorko WD. 2004. "Standards development of global warming gas species: methane, nitrous oxide, trichlorofluoromethane, and dichlorodifluoromethane." *Environmental Science & Technology* 38 (9): 2685-2692.
- Rhoderick GC. 2005. "Long-term stability of hydrocarbons in NIST gas standard reference
- Richards ND, Soderholm KJ, Batich CD. 2004. "Effect of molar mass of an experimental primer on shear bond strength to dentin." *Journal of Biomedical Materials Research B Appl Biomater* 70 (2): 384-388.
- Richter CA, Hacker CA, Richter LJ. 2005. "Electrical and spectroscopic characterization of metal/monolayer/Si devices." *The Journal of Physical Chemistry. B, Condensed Matter, Materials, Surfaces, Interfaces & Biophysical* 109 (46): 21836-21841.
- Ridge KD. 2002. "Algal rhodopsins: Phototaxis receptors found at last." *Current Biology* 12 (17): R588-R590.
- Ridge KD, Abdulaev NG, Sousa M, Palczewski K. 2003. "Phototransduction: Crystal clear (vol 28, pg 479, 2003)." *Trends in Biochemical Sciences* 28 (10): 526.
- Ridge KD, Abdulaev NG, Sousa M, Palczewski K. 2003. "Phototransduction: crystal clear." *Trends in Biochemical Sciences* 28 (9): 479-487.
- Rimmer C, Sander L, Wise S. 2005. "Selectivity of long chain stationary phases in reversed phase liquid chromatography." *Analytical and Bioanalytical Chemistry* 382 (3): 698-707.
- Rimmer CA, Sander LC, Wise SA, Dorsey JG. 2003. "Synthesis and characterization of C-13 to C-18 stationary phases by monomeric, solution polymerized, and surface polymerized approaches." *Journal of Chromatography A* 1007 (1-2): 11-20.
- Rivard MJ, Coursey BM, DeWerd LA, Hanson WF, Huq MS, Ibbott G, Nath R, Williamson JF. 2002. "Comment on 'Let's abandon geometry factors other than that of a point source in brachytherapy dosimetry'." *Medical Physics* 29 (8): 1919-1920.
- Rivard MJ, Butler WM, DeWerd LA, Huq MS, Ibbott GS, Li ZF, Mitch MG, Nath R, Williamson JF. 2004. "Update of AAPM task group No. 43 report: A revised AAPM protocol for brachytherapy dose calculations (vol 31, pg 633, 2004)." *Medical Physics* 31 (12): 3532-3533.
- Rivard MJ, Coursey BM, DeWerd LA, Hanson WF, Huq MS, Ibbott GS, Mitch MG, Nath R, Williamson JF. 2004. "Update of AAPM Task Group No. 43 Report: A revised AAPM protocol for brachytherapy dose calculations." *Medical Physics* 31 (3): 633-674.
- Rivard MJ, Butler WM, DeWerd LA, Huq MS, Ibbott GS, Melhus CS, Mitch MG, Nath R, Williamson JJ. 2005. "Response to 'Comment on 'Update of AAPM Task Group No. 43 Report: A revised AAPM protocol for brachytherapy dose calculations' [Med. Phys. 31, 633-674 (2004)]." *Medical Physics* 32 (6): 1822-1824.

Rodriguez H, O'Connell C, Barker PE, Atha DH, Jaruga P, Birincioglu M, Marino M, McAndrew P, Dizdaroglu M. 2003. "Biomarkers to detect molecular changes in tissue-engineered medical products." *BioProcessing* 2: 65-66.

Rodriguez H, Jaruga P, Birincioglu M, Barker PE, O'Connell C, Dizdaroglu M. 2003. "Oxidative DNA damage biomarkers used in tissue engineered skin," In: *Advances in Experimental Medicine and Biology*. Elcin YM (ed): 129-135.

Rodriguez H, Jaruga P, Birincioglu M, Barker P, O'Connell C, Dizdaroglu M. 2004. "A comparative study of biomarkers of oxidative DNA damage used to detect free radical damage in tissue-engineered skin," *Tissue Engineered Medical Products (TEMPS)*, Schutte E, Picciolo GL, Kaplan D (ed): 84-89.

Rodriguez H, O'Connell C, Barker PE, Atha DH, Jaruga P, Birincioglu M, Marino M, McAndrew P, Dizdaroglu M. 2004. "Measurement of DNA biomarkers for the safety of tissue-engineered medical products, using artificial skin as a model." *Tissue Engineering* 10 (9-10): 1332-1345.

Rolston SL, Phillips WD. 2002. "Nonlinear and quantum atom optics." *Nature* 416 (6877): 219-224.

Romanyukha AA, Nagy V, Sleptchouk O, Desrosiers MF, Jiang JJ, Heiss A. 2001. "Individual biodosimetry at the natural radiation background level." *Health Physics* 80 (1): 71-73.

Romanyukha AA, Seltzer SM, Desrosiers M, Ignatiev EA, Ivanov DV, Bayankin S, Degteva MO, Eichmiller FC, Wieser A, Jacob P. 2001. "Correction factors in the EPR dose reconstruction for residents of the Middle and Lower Techa riverside." *Health Physics* 81 (5): 554-566.

Romanyukha AA, Mitch MG, Lin Z, Nagy V, Coursey BM. 2002. "Mapping the distribution of (90)Sr in teeth with a photostimulable phosphor imaging detector." *Radiation Research* 157 (3): 341-349.

Romero D, Cheng GJ, Dunmire D, Walker AH. 2004. "Surface-enhanced magneto-Raman spectroscopy of ferritin." *Biophysical Journal* 86 (1): 150A.

Rosenthal L. 2006. "How-to guide for creating functional profiles." *Draft Standard, HL7 Electronic Health Record Technical Committee*. September 2006.

L. Rosenthal. 2006. "EHR-S functional model, release 1." In: Chapter two, "Conformance clause." *Draft Standard, HL7 Electronic Health Record Technical Committee*. September 2006.

Ross D, Balss KM, Howell PB, Vreeland WN. 2003. "MAGF: a new method for high-performance Focusing of uncharged and hydrophobic analytes." *Micro Total Analysis Systems 2003 Proceedings of the mTas 2003 Symposium*: 1045-1048.

Ross D, Bonn D, Meunier J. 2001. "Wetting of methanol on the n-alkanes: observation of short-range critical wetting." *Journal of Chemical Physics* 114: 2784-2792.

- Ross D, Bonn D, Posazhennikova AI, Indekeu JO, Meunier J. 2001. "Crossover from first-order to critical wetting: short-range tricritical wetting." *Physical Review Letters* 87 (17): 176103.
- Ross D, Gaitan M, Locascio LE. 2001. "Temperature measurement in microfluidic systems using a temperature-dependent fluorescent dye." *Analytic Chemistry* 73: 4117-4123.
- Ross D, Gaitan M, Locascio LE. 2001. "Temperature measurement and control in microfluidic systems." *Micro Total Analysis Systems 2001 Proceedings of the mTas 2001 Symposium*: 239-241.
- Ross D, Ivory CF, Locascio LE, Van Cott KE. 2004. "Peak compression and resolution for electrophoretic separations in diverging microchannels." *Electrophoresis* 25 (21-22): 3694-3704.
- Ross D, Johnson TJ, Locascio LE. 2001. "Imaging of electro-osmotic flow in plastic microchannels." *Analytic Chemistry* 73: 2509-2515.
- Ross D, Locascio LE. 2002. "Microfluidic temperature gradient focusing." *Analytical Chemistry* 74 (11): 2556-2564.
- Ross D, Locascio LE. "Temperature gradient focusing." *Micro Total Analysis Systems 2002 Proceedings of the mTas 2002 Symposium*: 661-663.
- Ross D, Locascio LE. "Effect of caged dye on the electroosmotic mobility in microchannels." *Analytic Chemistry* 75: 1218-1220.
- Ross EA, Branham ML, Tebbett IR. 2001. "High mass clearance of autoantibodies from a murine model of lupus nephritis by immunoadsorption using star-configured polyethylene glycols." *Journal of Biomedical Materials Research* 55 (1): 114-120.
- Rowe MA, Swann WC, Gilbert SL. 2004. "Multiple-wavelength reference based on interleaved, sampled fiber Bragg gratings and molecular absorption." *Applied Optics* 43 (17): 3530-3534.
- Ruitberg CM, Reeder DJ, Butler JM. 2001. "STRBase: a short tandem repeat DNA database for the human identity testing community." *Nucleic Acids Research* 29 (1): 320-322.
- Sackett DL, Chernomordik V, Krueger S, Nossal R. 2003. "Use of small-angle neutron scattering to study tubulin polymers." *Biomacromolecules* 4 (2): 461-467.
- Saiz L, Bandyopadhyay S, Klein ML. 2003. "Effect of the pore region of a transmembrane ion-channel on the physical properties of a simple membrane." *Biophysical Journal* 84 (2): 382A.
- Saiz L, Klein ML. 2004. "The transmembrane domain of the nicotinic acetylcholine receptor ion channel: Insights from molecular dynamics simulations on synthetic peptide models." *Biophysical Journal* 86 (1): 543A.
- Salit ML, Turk GC, Lindstrom AP, Butler TA, Beck CM, Norman B. 2001. "Single-element solution comparisons with a high-performance inductively coupled plasma optical emission spectrometric method." *Analytical Chemistry* 73 (20): 4821-4829.

- Sambasivan S, Fischer DA, Shen MC, Hsu SM. 2004. "Molecular orientation of ultrahigh molecular weight polyethylene induced by various sliding motions." *Journal of Biomedical Materials Research Part B-Applied Biomaterials* 70B (2): 278-285.
- Sanabia JE, Goldner LS, Lacaze PA, Hawkins ME. 2004. "On the feasibility of single molecule detection of 3-MI." *Journal of Physical Chemistry B* 108 (39):15293-15300.
- Sanabia JE, Goldner LS, Lacaze PA, Hawkins ME. 2004. "Single molecule detection of 3-MI." *Biophysical Journal* 86 (1): 327A.
- Sandberg A, Leckner J, Shi Y, Schwarz FP, Karlsson G. 2002. "Effects of metal ligation and oxygen on the reversibility of the thermal denaturation of *Pseudomonas aeruginosa* azurin" *Biochemistry* 41: 1060-1069.
- Sander LC, Lippa KA, Wise SA. 2005. "Order and disorder in alkyl stationary phases." *Analytical and Bioanalytical Chemistry* 382 (3): 646-668.
- Sander LC, Sharpless KE, Satterfield MB, Ihara T, Phinney KW, Yen JH, Wise SA, Gay ML, Lam JW, McCooeye M, Gardner G, Fraser C, Sturgeon R, Roman M. 2005. "Determination of ephedrine alkaloids in dietary supplement standard reference materials." *Analytical Chemistry* 77 (10): 3101-3112.
- Sander LC, Wise SA. 2001. "The influence of column temperature on selectivity in liquid chromatography for shape-constrained solutes." *Journal of Separation Science* 24: 910-920.
- Sato TJ, Lynn JW, Dabrowski B. 2004. "Disorder-induced polaron formation in the magnetoresistive perovskite $\text{La}_{0.54}\text{Ba}_{0.46}\text{MnO}_3$." *Physical Review Letters* 93 (26 Pt 1): 267204.
- Satterfield MB, Sniegowski LT, Welch MJ, Nelson BC, Pfeiffer CM. 2003. "Comparison of isotope dilution mass spectrometry methods for the determination of total homocysteine in plasma and serum." *Analytical Chemistry* 75 (17): 4631-4638.
- Satterfield MB, Nelson BC, Sniegowski LT, Welch M. 2004. "New standard reference material for homocysteine and folate." *The FASEB Journal* 18 (4): A177.
- Satterfield MB, Welch MJ. 2005. "Comparison by LC-MS and MALDI-MS of prostate-specific antigen from five commercial sources with certified reference material 613." *Clinical Biochemistry* 38 (2): 166-174.
- Schaetz T, Barrett MD, Leibfried D, Chiaverini J, Britton J, Itano WM, Jost JD, Langer C, Wineland DJ. 2004. "Quantum dense coding with atomic qubits." *Physical Review Letters* 93 (4): 040505.
- Scharf D, Koubi L, Tarek M, Bandyopdhyay S, Klein ML. 2001. "Comparing non-immobilizer to anesthetic distribution in a model membrane." *Biophysical Journal* 80 (1): 503A.
- Schlager JB, Callicoatt BE, Mirin RP, Sanford NA, Jones DJ, Ye J. 2003. "Passively mode-locked glass waveguide laser with 14-fs timing jitter." *Optics Letters* 28 (23): 2411-2413.

- Schoske R, Vallone PM, Ruitberg CM, Butler JM. 2003. "Multiplex PCR design strategy used for the simultaneous amplification of 10 Y chromosome short tandem repeat (STR) loci." *Analytical and Bioanalytical Chemistry* 375 (5): 333-343.
- Schwartz A, Gaigalas AK, Wang LL, Marti GE, Vogt RF, Fernandez-Repollet E. 2004. "Formalization of the MESF unit of fluorescence intensity." *Cytometry Part B-Clinical Cytometry* 57B (1): 1-6.
- Schwarz FP. 2004. "Calorimetric analysis of mutagenic effects on protein-ligand interactions." *Methods in Enzymology* 379: 128-145.
- Schwartz RB, Eisenhauer CM. 2002. "Calibration of neutron albedo dosimeters." *Radiation Protection Dosimetry* 102 (1): 23-30.
- Schwartz RB, McDonald JC. 2003. "On the interpretation and use of neutron calibration coefficients." *Radiation Protection Dosimetry* 107 (4): 277-279.
- Scott JH. 2003. "Analytical advances in the SEM." *Analytical and Bioanalytical Chemistry* 375 (1): 38-40.
- Sekiguchi K, Kasai K, Levin BC. 2003. "Inter- and intragenerational transmission of a human mitochondrial DNA heteroplasmy among 13 maternally-related individuals and differences between and within tissues in two family members." *Mitochondrion* 2 (6): 401-414.
- Seltzer SM, Inokuti M, Paul H, Bichsel H. 2001. "Response to the commentary by J. F. Ziegler (Radiat. res. 152, 219-222, 1999)." *Radiation Research* 155 (2): 378-381.
- Seltzer SM, Romanyukha AA, Nagy V. 2001. "Monte Carlo calculations of the dose distribution in teeth due to internal exposure from Sr-90: Application to EPR tooth dosimetry." *Radiation Protection Dosimetry* 93 (3): 245-260.
- Sen Gupta A, Garcia Nava JF, Walls FL. 2004. "Conjugate regenerative dividers." *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control* 51 (3): 271-276.
- Sharpless KE, Brown TJ, Nelson BC, Phinney CS, Sieber JR, Wood LJ, Yen JH, Howell DW. 2002. "Value assignment of nutrient concentrations in standard reference material 2384 baking chocolate." *Journal of Agricultural and Food Chemistry* 50 (24): 7069-7075.
- Sharpless KE, Colbert JC, Greenberg RR, Schantz MM, Welch MJ. 2001. "Recent developments in food-matrix Reference Materials at NIST." *Fresenius' Journal of Analytical Chemistry* 370 (2-3): 275-278.
- Sharpless KE, Greenberg RR, Schantz MM, Welch MJ, Wise SA, Ihnat M. 2004. "Filling the AOAC triangle with food-matrix standard reference materials." *Analytical and Bioanalytical Chemistry* 378 (5): 1161-1167.

- Sharpless KE, Phinney CS, Wood LJ, Yen JH, Howell DW. 2003. "Value assignment of nutrient and aflatoxin concentrations in standard reference material 2387 peanut butter." *Journal of Agricultural and Food Chemistry* 51 (23): 6745-6751.
- Sharpless KE, Sander LC, Wise SA, NguyenPho A, Lyon RC, Ziobro GC, Betz JM. 2004. "Development of SRMs for the analysis of dietary supplements." *HerbalGram* 63: 44-47.
- Sharpless, KE, Sander, LC, Wise, SA, NguyenPho, A, and Lyon, RC. 2003 "Development of Standard Reference Materials for botanical supplements." *Inside Laboratory Management* May/June 38-42.
- Shaw PS, Gupta R, Lykke KR. 2002. "Characterization of an ultraviolet and a vacuum-ultraviolet irradiance meter with synchrotron radiation." *Applied Optics* 41 (34): 7173-7178.
- Shaw PS, Gupta R, Lykke KR. 2005. "Stability of photodiodes under irradiation with a 157-nm pulsed excimer laser." *Applied Optics* 44 (2): 197-207.
- Shelton RK, Ma LS, Kapteyn HC, Murnane MM, Hall JL, Ye J. 2001. "Phase-coherent optical pulse synthesis from separate femtosecond lasers." *Science* 293 (5533): 1286-1289.
- Shen VK, Errington JR. 2005. "Determination of fluid-phase behavior using transition-matrix Monte Carlo: binary Lennard-Jones mixtures." *The Journal of Chemical Physics* 122 (6): 064508.
- Shenoy DK, Barger WR, Singh A, Panchal RG, Misakian M, Stanford VM, Kasianowicz JJ. 2005. "Functional reconstitution of protein ion channels into polymerizable phospholipid membranes." *Biophysical Journal* 88 (1): 552A.
- Shenoy DK, Barger WR, Singh A, Panchal RG, Misakian M, Stanford VM, Kasianowicz JJ. 2005. "Functional reconstitution of protein ion channels into polymerizable phospholipid membranes." *Nano Letters* 5: 1181-1185.
- Shim Y, Landau DP. 2001. "Dynamic finite-size scaling of the normalized height distribution in kinetic surface roughening." *Physical Review. E, Statistical, Nonlinear, and Soft Matter Physics* 64 (3 Pt 2): 036110.
- Shin MG, Kajigaya S, McCoy JP, Levin BC, Young NS. 2002. "Unexpected mitochondrial DNA heterogeneity in single CD34+ cell clones from normal bone marrow." *Blood* 100 (11): 154B-155B.
- Shin MG, Kajigaya S, Levin BC, Young NS. 2003. "Mitochondrial DNA mutations in patients with myelodysplastic syndromes." *Blood* 101 (8): 3118-3125.
- Shin MG, Kajigaya S, McCoy JP, Levin BC, Young NS. 2004. "Marked mitochondrial DNA sequence heterogeneity in single CD34(+) cell clones from normal adult bone marrow." *Blood* 103 (2): 553-561.

- Shin MG, Kajigaya S, Tarnowka M, McCoy JP, Levin BC, Young NS. 2004. "Mitochondrial DNA sequence heterogeneity in circulating normal human CD34 cells and granulocytes." *Blood* 103 (12): 4466-4477.
- Shirkey B, McMaster NJ, Smith SC, Wright DJ, Rodriguez H, Jaruga P, Birincioglu M, Helm RF, Potts M. 2003. "Genomic DNA of *Nostoc commune* (Cyanobacteria) becomes covalently modified during long-term (decades) desiccation but is protected from oxidative damage and degradation." *Nucleic Acids Research* 31 (12): 2995-3005.
- Shirley EL. 2004. "Diffraction corrections in radiometry: spectral and total power and asymptotic properties." *Journal of the Optical Society of America. A, Optics, Image Science, and Vision* 21 (10): 1895-1906.
- Shirley EL. 2004. "Diffraction effects on broadband radiation: formulation for computing total irradiance." *Applied Optics* 43 (13): 2609-2620.
- Shirley EL. 2004. "Intuitive diffraction model for multistaged optical systems." *Applied Optics* 43 (4): 735-743.
- Shortt K, Meghzifene A, Saravi M, Amorim R, Gutt F, Tovar V, Shobe J. 2002. "International dosimetry comparison." *Medical Physics* 29 (6): 1199.
- Sidorkina O, Dizdaroglu M, Laval J. 2001. "Effect of single mutations on the specificity of *Escherichia coli* FPG protein for excision of purine lesions from DNA damaged by free radicals." *Free Radical Biology and Medicine* 31 (6): 816-823.
- Siegel JA, Zimmerman BE, Kodimer K, Dell MA, Simon WE. 2003. "A single dose calibrator dial setting accurately measures Y-90 ibritumomab tiuxetan activity." *Journal of Nuclear Medicine* 44 (5): 317P.
- Siegel JA, Zimmerman BE, Kodimer K, Dell MA, Simon WE. 2004. "Accurate dose calibrator activity measurement of Y-90-ibritumomab tiuxetan." *Journal of Nuclear Medicine* 45 (3): 450-454.
- Siegrist K, Balu R, Gregurick S, Plusquellic D. 2005. "THz spectroscopy of small polypeptides." *Biophysical Journal* 88 (1): 554A.
- Silin VI, Wieder H, Woodward JT, Valincius G, Offenhausser A, Plant AL. 2002. "The role of surface free energy on the formation of hybrid bilayer membranes." *Journal of the American Chemical Society* 124 (49): 14676-14683.
- Simon-Manso Y. 2005. "Linear free-energy relationships and the density functional theory: an analog of the hammett equation." *The Journal of Physical Chemistry. A, Molecules, Spectroscopy, Kinetics, Environment & General Theory* 109 (9): 2006-2011.
- Simon CG, Guthrie WF, Wang FW. 2003. "Alginate encapsulation for protection of cells during seeding into calcium phosphate cement." *Cell Transplantation* 12 (2): 170.

- Simon CG, Eidelman N, Washburn NR. 2004. "Effect of nanoscale surface roughness of polymeric biomaterials on cell function." *Molecular Biology of the Cell* 15: 178A.
- Simon CG, Guthrie WF, Wang FW. 2004. "Cell seeding into calcium phosphate cement." *Journal of Biomedical Materials Research Part A* 68A (4): 628-639.
- Simon CG, Antonucci JM, Liu DW, Skrtic D. 2005. "In vitro cytotoxicity of amorphous calcium phosphate composites." *Journal of Bioactive and Compatible Polymers* 20 (3): 279-295.
- Simon CG, Eidelman N, Kennedy SB, Sehgal A, Khatri CA, Washburn NR. 2005. "Combinatorial screening of cell proliferation on poly(D,L-lactic acid)/poly(D,L-lactic acid) blends." *Biomaterials* 26 (34): 6906-6915.
- Simon CG, Jr. 2004. "Imaging cells on polymer spherulites." *Journal of Microscopy* 216 (Pt 2): 153-155.
- Simon CG, Jr., Deng Y, Eidelman N, Washburn NR. 2004. "High-throughput method for determining modulus of polymer blends." *Macromolecular Rapid Communications* 25: 2003-2007.
- Simon CG, Jr., Khatri CA, Wight SA, Wang FW. 2002. "Preliminary report on the biocompatibility of a moldable, resorbable, composite bone graft consisting of calcium phosphate cement and poly(lactide-co-glycolide) microspheres." *Journal of Orthopaedic Research* 20: 473-482.
- Skrtic D, Antonucci JM, Eanes ED. 2001. "Effect of the monomer and filler systems on the remineralizing potential of bioactive dental composites based on amorphous calcium phosphate." *Polymers for Advanced Technologies* 12 (6): 369-379.
- Skrtic D, Antonucci JM, Eanes ED, Brunworth RT. 2002. "Silica- and zirconia-hybridized amorphous calcium phosphate: Effect on transformation to hydroxyapatite." *Journal of Biomedical Materials Research* 59 (4): 597-604.
- Skrtic D, Antonucci JM. 2003. "Effect of bifunctional comonomers on mechanical strength and water sorption of amorphous calcium phosphate- and silanized glass-filled Bis-GMA-based composites." *Biomaterials* 24 (17): 2881-2888.
- Skrtic D, Stansbury JW, Antonucci JM. 2003. "Volumetric contraction and methacrylate conversion in photo-polymerized amorphous calcium phosphate/methacrylate composites." *Biomaterials* 24 (14): 2443-2449.
- Skrtic D, Antonucci JM, Eanes ED, Eidelman N. 2004. "Dental composites based on hybrid and surface-modified amorphous calcium phosphates." *Biomaterials* 25 (7-8): 1141-1150.
- Skrtic D, Antonucci JM, McDonough WG, Liu DW. 2004. "Effect of chemical structure and composition of the resin phase on mechanical strength and vinyl conversion of amorphous calcium phosphate-based composites." *Journal of Biomedical Materials Research Part A* 68A (4): 763-772.

- Slifka AJ, Panchawagh H, Mahajan RL, Finch D, Rorrer RA. 2004. "Static and quasi-static calibration of a bio-MEMS device." *Biomedical Sciences Instrumentation* 40: 429-434.
- Sliski A, Mitch M, Soares C. 2005. "Development of a new fiber optic scintillator dosimeter system." *Medical Physics* 32 (6): 2137.
- Small JA, Michael JR. 2001. "Phase identification of individual crystalline particles by electron backscatter diffraction." *Journal of Microscopy* 201 (Pt 1): 59-69.
- Small JA, Michael JR, Bright DS. 2002. "Improving the quality of electron backscatter diffraction (EBSD) patterns from nanoparticles." *Journal of Microscopy* 206 (Pt 2): 170-178.
- Smith N, Mayhew M, Robinson H, Heroux A, Charlton D, Holden MJ, Gallagher DT. 2003. "Crystallization and phasing of alanine dehydrogenase from *Archaeoglobus fulgidus*." *Acta Crystallographica Section D-Biological Crystallography* 59: 2328-2331.
- Smith N, Mayhew M, Holden MJ, Kelly H, Robinson H, Heroux A, Vilker VL, Gallagher DT. 2004. "Structure of C73G putidaredoxin from *Pseudomonas putida*." *Acta Crystallographica Section D-Biological Crystallography* 60: 816-822.
- Snelick R, Gebase L, Henrard S. 2006. "Dynamically generating conformance tests for messaging systems." *The 2006 International Conference on Software Engineering Research and Practice (SERP'06)*.
- Soares C, Bohm J, Helmstader K. 2002. "International intercomparisons of beta particle dosimetry." *Health Physics* 82 (6): S122.
- Soares C, Mourtada F. 2002. "Dosimetry characterization of a 20mm 32P source wire for use in vascular brachytherapy." *Medical Physics* 29 (6): 1225.
- Soares C, Sliski A. 2002. "Absorbed dose measurements of a handheld 50-KV x-ray source in water with ionization chambers and plastic scintillators." *Medical Physics* 29 (6): 1351.
- Soares C, Bergstrom P. 2003. "The divergence correction for extrapolation chambers measuring brachytherapy sources." *Medical Physics* 30 (6): 1427.
- Soares C, Lombardi M. 2004. "Dosimetric characteristics of a new radiochromic film for IMRT dosimetry." *Medical Physics* 31 (6): 1725.
- Soares CG, Vynckier S, Jarvinen H, Cross WG, Sipila P, Fluhs D, Schaeken B, Mourtada FA, Bass GA, Williams TT. 2001. "Dosimetry of beta-ray ophthalmic applicators: Comparison of different measurement methods." *Medical Physics* 28 (7): 1373-1384.
- Soares CG. 2002. "National and international standards and calibration of thermoluminescence dosimetry systems." *Radiation Protection Dosimetry* 101 (1-4): 167-171.
- Soares CG. 2002. "Standards for intravascular brachytherapy dosimetry." *Cellular and Molecular Biology* 48 (5): 441-443.

Soares CG, Ingellis F, Ward R, Pagonis V. 2005. "Measurements of field size and angular dependence of absorbed dose rate in beta particle reference radiation fields with TLDs and radiochromic film." *Health Physics* 89 (1): S7.

Soles CL, Douglas JF, Wu WL, Dimeo RM. 2002. "Incoherent neutron scattering and the dynamics of confined polycarbonate films." *Physical Review Letters* 88 (3): 037401.

Sosolik CE, Hampton JR, Lavery AC, Cooper BH, Marston JB. 2003. "Thermally enhanced neutralization in hyperthermal energy ion scattering." *Physical Review Letters* 90 (1): 013201.

Srinivas P, Barker PE, Sirvastava S. 2002. "Nanotechnology in early cancer detection, NIST workshop report." *Laboratory Investigation* 82(5):1-5.

Stanelle RD, Sander LC, Marcus RK. 2005. "Hydrodynamic flow in capillary-channel fiber columns for liquid chromatography." *Journal of Chromatography A* 1100 (1): 68-75.

Stanford VM, Kasianowicz JJ. 2004. "Transport of DNA through a single nanometer-scale pore: evolution of signal structure." *IEEE Workshop on Genomic Signal Processing and Statistics* 26 May 2004: Baltimore, MD.

Stanford VM, Kasianowicz JJ. 2003. "On quantifying signatures from single-stranded DNA driven through nanometer-scale α -hemolysin ion channels using Hidden Markov Models." *IEEE Workshop on Genomic Signal Processing and Statistics* 11-13 October 2002: Raleigh, NC.

Stansbury JW, Dickens SH. 2001. "Determination of double bond conversion in dental resins by near infrared spectroscopy." *Dental Materials* 17 (1): 71-79.

Stapleton HM, Dodder NG, Offenbergh JH, Schantz MM, Wise SA. 2005. "Polybrominated diphenyl ethers in house dust and clothes dryer lint." *Environmental Science & Technology* 39 (4): 925-931.

Starr FW, Angell CA, La Nave E, Sastry S, Scala A, Sciortino F, Stanley HE. 2003. "Recent results on the connection between thermodynamics and dynamics in supercooled water." *Biophysical Chemistry* 105 (2-3): 573-583.

Stephens JS, Fahnestock SR, Farmer RS, Kiick KL, Chase DB, Rabolt JF. 2005. "Effects of electrospinning and solution casting protocols on the secondary structure of a genetically engineered dragline spider silk analogue investigated via Fourier transform Raman spectroscopy." *Biomacromolecules* 6 (3): 1405-1413.

Stodeman M, Schwarz FP. 2002. "Importance of product inhibition in the kinetics of the acylase hydrolysis reaction by differential stopped flow microcalorimetry" *Analytical Biochemistry* 308: 285-293.

Stodeman M, Schwarz FP. 2003. "Temperature dependence of the kinetics of the acylase hydrolysis reaction by differential stopped flow microcalorimetry" *Analytical Biochemistry* 321: 1-7.

- Stodeman M, Schwarz FP. 2004. "Importance of product/substrate equilibrium in the kinetics of the phosphoglucose isomerization reaction by differential stopped flow microcalorimetry" *Analytical Biochemistry* 329: 307-315.
- Stoltzfus A. 2004. "Molecular evolution: introns fall into place." *Curr Biol* 14 (9): R351-R352.
- Stroscio JA, Celotta RJ. 2004. "Controlling the dynamics of a single atom in lateral atom manipulation." *Science* 306 (5694): 242-247.
- Struntz WDJ, Kucklick JR, Schantz MM, Becker PR, McFee WE, and Stolen MK. 2004. "Persistent organic pollutants in rough-toothed dolphins (*Steno bredanensis*) sampled during an unusual mass stranding event." *Marine Pollution Bulletin* 48 (1-2): 164-173.
- Sugawara A, Fujikawa K, Kusama K, Nishiyama M, Murai S, Takagi S, Chow LC. 2002. "Histopathologic reaction of a calcium phosphate cement for alveolar ridge augmentation." *Journal of Biomedical Materials Research* 61 (1): 47-52.
- Sugawara A, Fujikawa K, Takagi S, Chow LC, Nishiyama M, Murai S. 2004. "Histopathological and cell enzyme studies of calcium phosphate cements." *Dental Materials Journal* 23 (4): 613-620.
- Svensson C, Teneberg S, Nilsson CL, Kjellberg A, Schwarz FP, Sharon N, Krengel U. 2002. "High-resolution crystal structures of *Erythrina cristagalli* lectin in complex with lactose and 2'- α -L-fucosyllactose and correlation with thermodynamic binding data." *Journal of Molecular Biology* 321: 69-83.
- Szczypinski P, Sriram RD, Sriram P, Reddy D. 2004. "Model of deformable rings for aiding the wireless capsule endoscopy video interpretation and reporting." *Proceedings of the International Conference on Computer Vision and Graphics*, Warsaw, Poland.
- Tai SS, Sniegowski LT, Welch MJ. 2002. "Candidate reference method for total thyroxine in human serum: use of isotope-dilution liquid chromatography-mass spectrometry with electrospray ionization." *Clinical Chemistry* 48 (4): 637-642.
- Tai SS, Bunk DM, White Et, Welch MJ. 2004. "Development and evaluation of a reference measurement procedure for the determination of total 3,3',5-triiodothyronine in human serum using isotope-dilution liquid chromatography-tandem mass spectrometry." *Analytical Chemistry* 76 (17): 5092-5096.
- Tai SS, Welch MJ. 2004. "Development and evaluation of a candidate reference method for the determination of total cortisol in human serum using isotope dilution liquid chromatography/mass spectrometry and liquid chromatography/tandem mass spectrometry." *Analytical Chemistry* 76 (4): 1008-1014.
- Tai SS and Welch MJ. 2005. "Development and evaluation of a reference measurement procedure for the determination of estradiol-17 beta in human serum using isotope-dilution liquid chromatography-tandem mass spectrometry." *Analytical Chemistry* 77 (19): 6359-6363.

- Takagi S, Chow LC. 2001. "Formation of macropores in calcium phosphate cement implants." *Journal of Materials Science-Materials in Medicine* 12 (2): 135-139.
- Takagi S, Chow LC, Markovic M, Friedman CD, Costantino PD. 2001. "Morphological and phase characterizations of retrieved calcium phosphate cement implants." *Journal of Biomedical Materials Research* 58 (1): 36-41.
- Takagi S, Liao H, Chow LC. 2001. "Effect of a low-fluoride-content, two-component rinse on fluoride uptake and on de- and remineralization of enamel lesions: An in vitro study." *Caries Research* 35 (3): 223-228.
- Takagi S, Chow LC, Hirayama S, Eichmiller FC. 2003. "Properties of elastomeric calcium phosphate cement-chitosan composites." *Dental Materials* 19 (8): 797-804.
- Takagi S, Chow LC, Hirayama S, Sugawara A. 2003. "Premixed calcium-phosphate cement pastes." *Journal of Biomedical Materials Research Part B-Applied Biomaterials* 67B (2): 689-696.
- Taketomi S, Sorensen CM, Klabunde KJ. 2003. "Calorimetric study of magnetic fluids under a magnetic field." *Physical Review. E, Statistical, Nonlinear, and Soft Matter Physics* 68 (2 Pt 1): 021501.
- Tang H, Morgan R, Rhodes T, Ridoret C. 2006. "Open source implementation of the NIST healthcare standards landscape." *The 2006 International Conference on e-Learning, e-Business, Enterprise Information Systems, e-Government, and Outsourcing (EEE'06)*.
- Tarek M, Tobias DJ, Chen SH, Klein ML. 2001. "Short wavelength collective dynamics in phospholipid bilayers: a molecular dynamics study." *Physical Review Letters* 87 (23): 238101.
- Tarek M, Tobias DJ. 2002. "Single-particle and collective dynamics of protein hydration water: a molecular dynamics study." *Physical Review Letters* 89 (27): 275501.
- Tarek M, Tobias DJ. 2002. "Role of protein-water hydrogen bond dynamics in the protein dynamical transition." *Physical Review Letters* 88 (13): 138101.
- Taylor BN. 2005. "The determination of best values of the fundamental physical constants." *Philosophical Transactions. Series A, Mathematical, Physical, and Engineering Sciences* 363 (1834): 2105-2122.
- Teplyakov A, Obmolova G, Tordova M, Thanki N, Bonander N, Eisenstein E, Howard AJ, Gilliland GL. 2002. "Crystal structure of the YjeE protein from *Haemophilus influenzae*: a putative ATPase involved in cell wall synthesis." *Proteins* 48 (2): 220-226.
- Teplyakov A, Obmolova G, Bir N, Reddy P, Howard AJ, Gilliland GL. 2003. "Crystal structure of the YajQ protein from *Haemophilus influenzae* reveals a tandem of RNP-like domains." *Journal of Structural and Functional Genomics* 4 (1): 1-9.

- Teplyakov A, Obmolova G, Chu SY, Toedt J, Eisenstein E, Howard AJ, Gilliland GL. 2003. "Crystal structure of the YchF protein reveals binding sites for GTP and nucleic acid." *Journal of Bacteriology* 185 (14): 4031-4037.
- Tesk JA. 2001. "Special report: NIST workshop on reference data for the properties of biomaterials." *Journal of Biomedical Materials Research* 58 (5): 463-466.
- Tewari YB, Bunk DM. 2001. "Thermodynamics of the lipase-catalyzed esterification of glycerol and n-octanoic acid in organic solvents and in the neat reaction mixture." *Journal of Molecular Catalysis B-Enzymatic* 15 (4-6): 135-145.
- Tewari YB, Gery PD, Vaudin MD, Mighell AD, Klein R, Goldberg RN. 2004. "Saturation molalities and standard molar enthalpies of solution of cytidine(cr), hypoxanthine(cr), thymidine(cr), thymine(cr), uridine(cr), and xanthine(cr) in H₂O(l)." *The Journal of Chemical Thermodynamics* 36: 645-658.
- Tewari YB, Gery PD, Vaudin MD, Mighell AD, Klein R, Goldberg RN. "Saturation molalities and standard molar enthalpies of solution of 2'-deoxyadenosine·H₂O(cr), 2'-deoxycytidine·H₂O(cr), 2'-deoxyguanosine·H₂O(cr), 2'-deoxyinosine(cr), and 2'-deoxyuridine(cr) in H₂O(l)." *The Journal of Chemical Thermodynamics* 37: 233-241.
- Tewari YB, Goldberg RN. 2005. "Thermodynamics of the hydrolysis reactions of nitriles," *The Journal of Chemical Thermodynamics* 37: 720-728.
- Tewari YB, Goldberg RN. 2003. "Thermodynamics of the oxidation-reduction reaction {2 glutathione_{red}(aq) + NADP_{ox}(aq) = glutathione_{ox}(aq) + NADP_{red}(aq)}." *The Journal of Chemical Thermodynamics* 35: 1361-1381.
- Tewari YB, Hawkins AR, Lamb HK, Goldberg RN. 2002. "A thermodynamic study of the reactions: {2-dehydro-3-deoxy-D-arabino-heptanoate 7-phosphate(aq) = 3-dehydroquinolate(aq) + phosphate(aq)} and {3-dehydroquinolate(aq) = 3-dehydroshikimate(aq) + H₂O(l)}." *The Journal of Chemical Thermodynamics* 34: 1671-1691.
- Tewari YB, Jensen PY, Kishore N, Mayhew MP, Parsons JF, Eisenstein E, Goldberg RN. 2002. "Thermodynamics of reactions catalyzed by PABA synthase." *Biophysical Chemistry* 96 (1): 33-51.
- Tewari YB, Kishore N, Bauerle RH, LaCourse WR, Goldberg RN. 2001. "Thermochemistry of the reaction {phosphoenolpyruvate(aq) + D-erythrose 4-phosphate(aq) + H₂O(l) = 2-dehydro-3-deoxy-D-arabino-heptanoate 7-phosphate(aq) + phosphate(aq)}." *The Journal of Chemical Thermodynamics* 33: 1791-1805.
- Tewari YB, Klein R, Vaudin MD, Goldberg RN. 2003. "Saturation molalities and standard molar enthalpies of solution of adenosine(cr), guanosine·2H₂O(cr), inosine(cr), and xanthosine·2H₂O(cr) in H₂O(l)," *The Journal of Chemical Thermodynamics* 35: 1681-1702.

Tewari YB, Vanderah DJ, Rozzell JD. 2003. "Thermodynamics of the lipase-catalyzed transesterification of 1-phenyl-1-alkanols and butyl acetate in organic solvents." *Journal of Molecular Catalysis B-Enzymatic* 21 (3): 123-131.

Tewari YB, Hara T, Phinney KW, Mayhew MP. 2004. "A thermodynamic study of the lipase-catalyzed transesterification of benzyl alcohol and butyl acetate in supercritical carbon dioxide media." *Journal of Molecular Catalysis B-Enzymatic* 30 (3-4): 131-136.

Theruvathu JA, Jaruga P, Nath RG, Dizdaroglu M, Brooks PJ. 2005. "Polyamines stimulate the formation of mutagenic 1,N-2-propanodeoxyguanosine adducts from acetaldehyde." *Nucleic Acids Research* 33 (11): 3513-3520.

Thienpont LM, Van Uytfanghe K, Marriot J, Stokes P, Siekmann L, Kessler A, Bunk D, Tai S. 2005. "Metrologic traceability of total thyroxine measurements in human serum: Efforts to establish a network of reference measurement laboratories." *Clinical Chemistry* 51 (1): 161-168.

Thienpont LM, Van Uytfanghe K, Marriott J, Stokes P, Siekmann L, Kessler A, Bunik D, Tai S. 2005. "Feasibility study of the use of frozen human sera in split-sample comparison of immunoassays with candidate reference measurement procedures for total thyroxine and total triiodothyronine measurements." *Clinical Chemistry* 51 (12): 2303-2311.

Thomas GA, Farquar HD, Sutton S, Hammer RP, Soper SA. 2002. "BioMEMS using electrophoresis for the analysis of genetic mutations." *Expert Rev Molecular Diagnosis* 2 (5): 429-447.

Thomas JB, Kline MC, Gill LM, Yen JH, Duewer DL, Sniegowski LT, and Sharpless KE. 2001. "Preparation and value assignment of standard reference material 968c fat-soluble vitamins, carotenoids, and cholesterol in human serum." *Clinica Chimica Acta* 305 (1-2): 141-155.

Thomas JB, Yen JH, Schantz MM, Porter BJ, Sharpless KE. 2004. "Determination of caffeine, theobromine, and theophylline in standard reference material 2384, baking chocolate, using reversed-phase liquid chromatography." *Journal of Agricultural and Food Chemistry* 52 (11): 3259-3263.

Thompson RQ, Phinney KW, Sander LC, Welch MJ. 2005. "Reversed-phase liquid chromatography and argentation chromatography of the minor capsaicinoids." *Analytical and Bioanalytical Chemistry* 381 (7): 1432-1440.

Thompson RQ, Phinney KW, Welch MJ, White VE. 2005. "Quantitative determination of capsaicinoids by liquid chromatography-electrospray mass spectrometry." *Analytical and Bioanalytical Chemistry* 381 (7): 1441-1451.

Tigerstrom A, Karlson G, Maeder D, Robb FT, Schwarz FP, Sjolín L. 2004. "Effect of a novel disulfide bond and ion-pair interactions on the thermostability of azurin from *Pseudomonas aeruginosa*." *Biochemistry* 43: 12563-12574.

- Tjernberg LO, Tjernberg A, Bark N, Shi Y, Ruzsicska BP, Bu ZM, Thyberg J, Callaway DJE. 2002. "Assembling amyloid fibrils from designed structures containing a significant amyloid beta-peptide fragment." *Biochemical Journal* 366: 343-351.
- Tobias DJ, Tarek M, Razmara A, Kuo IFW. 2002. "Hydration dynamics of native and partially unfolded proteins." *Biophysical Journal* 82 (1): 305A-306A.
- Toby BH, Billinge SJ. 2004. "Determination of standard uncertainties in fits to pair distribution functions." *Acta Crystallographica. Section A, Foundations of Crystallography* 60 (Pt 4): 315-317.
- Tokumasu F, Fairhurst RM, Ostera GR, Brittain NJ, Hwang J, Wellems TE, Dvorak JA. 2005. "Band 3 modifications in Plasmodium falciparum-infected AA and CC erythrocytes assayed by autocorrelation analysis using quantum dots." *Journal of Cell Science* 118 (5): 1091-1098.
- Tokumasu F, Hwang J, Dvorak J. 2004. "Heterogeneous molecular distribution in supported multicomponent lipid bilayers." *Langmuir* 20: 614.
- Trzeciak AR, Simon GN, Jaruga P, Lohani AA, Dizdaroglu M, Evans, MK. 2004. "Cellular repair of oxidatively induced DNA base lesions is defective in prostate cancer cell lines, PC-3 and DU-145." *Carcinogenesis* 25: 1359-1370.
- Tsai AM, Udovic TJ, Neumann DA. 2001. "The inverse relationship between protein dynamics and thermal stability." *Biophysical Journal* 81 (4): 2339-2343.
- Tuo J, Muftuoglu M, Chen C, Jaruga P, Selzer RR, Brosh RM, Rodriguez H, Dizdaroglu M, Bohr VA. 2001. "The Cockayne Syndrome group B gene product is involved in general genome base excision repair of 8-hydroxyguanine in DNA." *Journal of Biological Chemistry* 276 (49): 45772-45779.
- Tuo JS, Jaruga P, Rodriguez H, Dizdaroglu M, Bohr VA. 2002. "The Cockayne syndrome group B gene product is involved in cellular repair of 8-hydroxyadenine in DNA." *Journal of Biological Chemistry* 277 (34): 30832-30837.
- Tuo JS, Jaruga P, Rodriguez H, Bohr VA, Dizdaroglu M. 2003. "Primary fibroblasts of Cockayne syndrome patients are defective in cellular repair of 8-hydroxyguanine and 8-hydroxyadenine resulting from oxidative stress." *The FASEB Journal* 17 (6): 668-674.
- Turk GC, Yu LL, Salit ML, Guthrie WF. 2001. "Using inductively coupled plasma-mass spectrometry for calibration transfer between environmental CRMs." *Fresenius' Journal of Analytical Chemistry* 370 (2-3): 259-263.
- Turk GC, Duewer DL, Long SE, Burritt MF, Butz JA. 2005. "Proposed process for a NIST traceable clinical reference laboratory network." *Clinical Chemistry* 51: A200.

Tutschku S, Schantz MM, Horvat M, Logar M, Akagi H, Emons H, Levenson M, Wise SA. 2001. "Certification of the methylmercury content in SRM 2977 Mussel Tissue (organic contaminants and trace elements) and SRM 1566b Oyster Tissue." *Fresenius Journal of Analytical Chemistry* 369 (3-4): 364-369.

Tutschku, S, Schantz, MM, and Wise, SA. 2002 "Determination of methylmercury and butyltin compounds in marine biota and sediments using microwave-assisted acid extraction, solid phase microextraction, and gas chromatography with microwave-induced plasma atomic emission spectrometric detection." *Analytical Chemistry* 74 (18): 4694-4701.

Unterweger MP. 2002. "Half-life measurements at the National Institute of Standards and Technology." *Applied Radiation and Isotopes* 56 (1-2): 125-130.

Unterweger MP, Lindstrom RM. 2004. "Ionization chamber measurements of the half-lives of Na-24, K-42, As-76 and Au-198." *Applied Radiation and Isotopes* 60 (2-4): 325-327.

Unterweger MP, Pibida LS. 2005. "Advances in radiation detection technologies for responders." *Health Physics* 89 (5): 485-487.

Vallone PM, Butler JM. 2001. "Detection of single nucleotide polymorphisms by MALDI-TOF Mass Spectrometry." *American Journal of Human Genetics* 69 (4): 470.

Vallone PM, Devaney JM, Marino MA, Butler JM. 2002. "A strategy for examining complex mixtures of deoxyoligonucleotides using ion-pair-reverse-phase high-performance liquid chromatography, matrix-assisted laser desorption ionization time-of-flight mass spectrometry, and informatics." *Analytical Biochemistry* 304 (2): 257-265.

Vallone PM, Butler JM. 2004. "AutoDimer: a screening tool for primer-dimer and hairpin structures." *Biotechniques* 37 (2): 226-231.

Vallone PM, Butler JM. 2004. "Y-SNP typing of U.S. African American and Caucasian samples using allele-specific hybridization and primer extension." *Journal of Forensic Sciences* 49 (4): 723-732.

Vallone PM, Just RS, Coble MD, Butler JM, Parsons TJ. 2004. "A multiplex allele-specific primer extension assay for forensically informative SNPs distributed throughout the mitochondrial genome." *International Journal of Legal Medicine* 118 (3): 147-157.

Vallone PM, Decker AE, Butler JM. 2005. "Allele frequencies for 70 autosomal SNP loci with US Caucasian, African-American, and Hispanic samples." *Forensic Science International* 149 (2-3): 279-286.

Van Uytanghe K, Thienpont LM, Marriot J, Stokes P, Siekmann L, Kessler A, Bunk D, Tai S. 2005. "Eu-project G6RD-CT-2001-00587: A method comparison study for total thyroxine in human serum." *Clinica Chimica Acta* 355: S280.

- Van Uytfanghe K, Thienpont LM, Marriot JC, Stokes P, Siekmann L, Kessler A, Bunk D, Tai S. 2005. "Eu project G6RD-CT-2001-00587: Report on the establishment of a reference measurement system for total thyroxine in human serum." *Clinica Chimica Acta* 355: S280-S281.
- Van Workum K, Douglas JF. 2005. "Equilibrium polymerization in the Stockmayer fluid as a model of supermolecular self-organization." *Physical Review. E, Statistical, Nonlinear, and Soft Matter Physics* 71 (3 Pt 1): 031502.
- Vander Pol SS, Becker PR, Kucklick JR, Pugh RS, Roseneau DG, Simac KS. 2004. "Persistent organic pollutants in Alaskan murre (*Uria* spp.) eggs: geographical, species, and temporal comparisons." *Environmental Science & Technology* 38 (5): 1305-1312.
- Vanderah DJ, La H, Naff J, Silin V, Robinson KA. 2004. "Control of protein adsorption: molecular level structural and spatial variables." *Journal of the American Chemical Society* 126 (42): 13639-13641.
- Vanderah DJ, Parr T, Silin V, Meuse CW, Gates RS, La H, Valincius G. 2004. "Isostructural self-assembled monolayers. 2. Methyl 1-(3-mercaptopropyl)-oligo(ethylene oxide)s." *Langmuir* 20 (4): 1311-1316.
- Vanderah TA. 2002. "Materials science. Talking ceramics." *Science* 298 (5596): 1182-1184.
- Vasquez GB, Zullo SJ, Barker PE. 2004. "Standards requirements for systems biology approaches to health care: mitochondrial proteomics." *Mitochondrion* 3 (4): 205-215.
- Verkouteren RM, Allison CE, Studley SA, Leckrone KJ. 2003. "Isotopic metrology of carbon dioxide. I. Interlaboratory comparison and empirical modeling of inlet equilibration time, inlet pressure, and ion source conductance." *Rapid Communications in Mass Spectrometry* 17 (8): 771-776.
- Verkouteren RM, Assonov S, Klinedinst DB, Brand WA. 2003. "Isotopic metrology of carbon dioxide. II. Effects of ion source materials, conductance, emission, and accelerating voltage on dual-inlet cross contamination." *Rapid Communications in Mass Spectrometry* 17 (8): 777-782.
- Vest RE, Grantham S. 2003. "Response of a silicon photodiode to pulsed radiation." *Applied Optics* 42 (25): 5054-5063.
- Vetter WM, Gallagher DT, Dudley M. 2002. "Synchrotron white-beam X-ray topography of ribonuclease S crystals." *Acta Crystallographica Section D-Biological Crystallography* 58: 579-584.
- Vogel BM, Cabral JT, Eidelman N, Narasimhan B, Mallapragada SK. 2005. "Parallel synthesis and high throughput dissolution testing of biodegradable polyanhydride copolymers." *Journal of Combinatorial Chemistry* 7 (6): 921-928.
- Vogel GL, Zhang Z, Chow LC, Schumacher GE. 2001. "Effect of a water rinse on 'labile' fluoride and ether ions in plaque and saliva before and after conventional and experimental fluoride rinses." *Caries Research* 35 (2): 116-124.

Vogel GL. 2002. "Untitled." *Journal of Dental Research* 81 (4): 228.

Vogel GL, Zhang Z, Chow LC, Schumacher GE. 2002. "Changes in lactate and other ions in plaque and saliva after a fluoride rinse and subsequent sucrose administration." *Caries Research* 36 (1): 44-52.

Vogt BD, Soles CL, Lee HJ, Lin EK, Wu WL. 2004. "Moisture absorption and absorption kinetics in polyelectrolyte films: influence of film thickness." *Langmuir* 20 (4): 1453-1458.

Vogt BD, Lee HJ, Wu WL, Liu Y. 2005. "Specular X-ray reflectivity and small angle neutron scattering for structure determination of ordered mesoporous dielectric films." *The Journal of Physical Chemistry. B, Condensed Matter, Materials, Surfaces, Interfaces & Biophysical* 109 (39): 18445-18450.

Vogt BD, Prabhu VM, Soles CL, Satija SK, Lin EK, Wu WL. 2005. "Control of moisture at buried polymer/alumina interfaces through substrate surface modification." *Langmuir* 21 (6): 2460-2464.

Vogt BD, Soles CL, Prabhu VM, Satija SK, Lin EK, Wu WL. 2005. "Water distribution within immersed polymer films." *Proceedings of SPIE-The International Society for Optical Engineering* I: 31-39.

Vogt RF, Marti G, Gaigalas A. 2002. "Standard reference materials and NCCLS guidelines for quantitative fluorescence calibration." *Cytometry* : 122.

Vrettos J, Meuse C. 2004. "Protein structural stability by infrared techniques." *Biophysical Journal* 86 (1): 85A.

Wadsö I, Goldberg RN. 2001. "Standards in isothermal microcalorimetry," *Pure Applied Chemistry* 73: 1625-1639.

Wagner MS. 2004. "Impact energy dependence of SF5+-induced damage in poly(methyl methacrylate) studied using time-of-flight secondary ion mass spectrometry." *Analytical Chemistry* 76 (5): 1264-1272.

Wagner MS., Graham DJ., Ratner BD, Castner DG. 2004. "Maximizing information obtained from secondary ion mass spectra of organic thin films using multivariate analysis." *Surface Science* 570 (1-2): 78-97.

Walker ARH, Boyden MA, Korter TM, Romero D. 2002. "Low frequency Raman modes of biotin." *Biophysical Journal* 82 (1): 39A.

Wallace WE, Kearsley AJ, Guttman CM. 2004. "An operator-independent approach to mass spectral peak identification and integration." *Analytical Chemistry* 76 (9): 2446-2452.

Wang L, Roitberg A, Meuse C, Gaigalas AK. 2001. "Raman and FTIR spectroscopies of fluorescein in solutions." *Spectrochimica Acta. Part A, Molecular and Biomolecular Spectroscopy* 57 (9): 1781-1791.

Wang L, Gaigalas AK, Blasic J, Holden MJ, Gallagher DT, Pires R. 2003. "Fluorescence resonance energy transfer between donor-acceptor pair on two oligonucleotides hybridized adjacently to DNA template." *Biopolymers* 72 (6): 401-412.

Wang L, Gaigalas AK, Blasic J, Holden MJ. 2004. "Spectroscopic characterization of fluorescein- and tetramethylrhodamine-labeled oligonucleotides and their complexes with a DNA template." *Spectrochimica Acta. Part A, Molecular and Biomolecular Spectroscopy* 60 (12): 2741-2750.

Wang L, Reipa V, Blasic J. 2004. "Silicon nanoparticles as a luminescent label to DNA." *Bioconjugate Chemistry* 15 (2): 409-412.

Wang L, Blasic JR, Holden MJ, Pires R. 2005. "Sensitivity comparison of real-time PCR probe designs on a model DNA plasmid." *Analytical Biochemistry* 344 (2): 257-265.

Wang L, Cole KD, Gaigalas AK, Zhang YZ. 2005. "Fluorescent nanometer microspheres as a reporter for sensitive detection of simulants of biological threats using multiplexed suspension arrays." *Bioconjugate Chemistry* 16 (1): 194-199.

Wang LL, Gaigalas AK, Reipa V. 2005. "Optical properties of Alexa (TM) 488 and Cy (TM) 5 immobilized on a glass surface." *Biotechniques* 38 (1): 127-132.

Warren JA, Cabral JT, Douglas JF. 2005. "Solution of a field theory model of frontal photopolymerization." *Physical Review. E, Statistical, Nonlinear, and Soft Matter Physics* 72 (2 Pt 1): 021801.

Washburn BR, Diddams SA, Newbury NR, Nicholson JW, Yan MF, Jorgensen CG. 2004. "Phase-locked, erbium-fiber-laser-based frequency comb in the near infrared." *Optics Letters* 29 (3): 250-252.

Washburn N, Simon CGJr, Karim A, Amis EJ. 2001. "Development of biodegradable polymer scaffolds using co-extrusion." *Biomaterials for drug delivery and tissue engineering* .

Washburn N, Weir MD, Prabhu V, Yamada KM. 2004. "Fluorescence correlation spectroscopy investigation of growth factor dynamics in three-dimensional extracellular matrices." *Molecular Biology of the Cell* 15: 414A.

Washburn NR, Simon CG, Tona A, Elgendy HM, Karim A, Amis EJ. 2002. "Co-extrusion of biocompatible polymers for scaffolds with co-continuous morphology." *Journal of Biomedical Materials Research* 60 (1): 20-29.

Washburn NR, Weir M, Anderson P, Potter K. 2004. "Bone formation in polymeric scaffolds evaluated by proton magnetic resonance microscopy and X-ray microtomography." *Journal of Biomedical Materials Research Part A* 69A (4): 738-747.

Washburn NR, Yamada KM, Simon CG, Kennedy SB, Amis EJ. 2004. "High-throughput investigation of osteoblast response to polymer crystallinity: influence of nanometer-scale roughness on proliferation." *Biomaterials* 25 (7-8): 1215-1224.

- Waters KR, Bridal SL, Cohen-Bacrie C, Levrier C, Fornes P, Laugier P. 2003. "Parametric analysis of carotid plaque using a clinical ultrasound imaging system." *Ultrasound in Medicine and Biology* 29 (11): 1521-1530.
- Waters KR, Hughes MS, Mobley J, Miller JG. 2003. "Differential forms of the Kramers-Kronig dispersion relations." *IEEE Transactions on Ultrasonics Ferroelectrics and Frequency Control* 50: 68-76.
- Waters K, Johnston P. 2005. "Tomographic imaging of an ultrasonic field in a plane using a linear array: theory and experiment." *IEEE Transactions on Ultrasonics Ferroelectrics and Frequency Control* 52: 2065-2074.
- Waters KR, Mobley J, Miller JG. 2005. "Causality-imposed (Kramers-Kronig) relationships between attenuation and dispersion." *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control* 52 (5): 822-833.
- Welch MJ, Colbert JC, Gill LM, Phinney CS, Sharpless KE, Sniegowski LT, Wood LJ. 2001. "The certification of SRM 1546--Meat Homogenate, a new reference material for nutrients in a high protein, high fat matrix." *Fresenius' Journal of Analytical Chemistry* 370 (1): 42-47.
- Welch MJ. 2002. "NIST's role in measurement accuracy for diagnosis and monitoring of diabetes." *Diabetes Technology & Therapeutics* 4 (1): 77-79.
- Welch MJ, Sniegowski LT, Tai S. 2003. "Two new standard reference materials for the determination of drugs of abuse in human hair." *Analytical and Bioanalytical Chemistry* 376 (8): 1205-1211.
- Westbrook J, Feng ZK, Jain S, Bhat TN, Thanki N, Ravichandran V, Gilliland GL, Bluhm W, Weissig H, Greer DS, Bourne PE, Berman HM. 2002. "The Protein Data Bank: Unifying the archive." *Nucleic Acids Research* 30 (1): 245-248.
- Wetzel SJ, Guttman CM, Flynn KM. 2004. "The influence of electrospray deposition in matrix-assisted laser desorption/ionization mass spectrometry sample preparation for synthetic polymers." *Rapid Communications in Mass Spectrometry* 18 (10): 1139-1146.
- Wight SA. 2001. "Experimental data and model simulations of beam spread in the environmental scanning electron microscope." *Scanning* 23 (5): 320-327.
- Wight SA, Holbrook RD. 2005. "Direct preparation of particles from liquid suspension for ESEM or SEM analysis." *Journal of Microscopy* 220 (Pt 1): 65-69.
- Williamson JF, Butler W, DeWerd LA, Huq MS, Ibbott GS, Li Z, Mitch MG, Nath R, Rivard MJ, Todor D. 2005. "Recommendations of the American Association of Physicists in Medicine regarding the impact of implementing the 2004 task group 43 report on dose specification for Pd-103 and I-125 interstitial brachytherapy." *Medical Physics* 32 (5): 1424-1439.

- Willis MA, Krajewski W, Chalamasetty VR, Reddy P, Howard A, Herzberg O. 2002. "Structure of HI1333 (YhbY), a putative RNA-binding protein from *Haemophilus influenzae*." *Proteins-Structure Function and Genetics* 49 (3): 423-426.
- Willis MA, Song F, Zhuang ZH, Krajewski W, Chalamasetty VR, Reddy P, Howard A, Dunaway-Mariano D, Herzberg O. 2005. "Structure of YciI from *Haemophilus influenzae* (HI0828) reveals a ferredoxin-like alpha/beta-fold with a histidine/aspartate centered catalytic site." *Proteins-Structure Function and Bioinformatics* 59 (3): 648-652.
- Wilson KS, Zhang K, Antonucci JM. 2005. "Systematic variation of interfacial phase reactivity in dental nanocomposites." *Biomaterials* 26 (25): 5095-5103.
- Wilson NS, Dolan JW, Snyder LR, Carr PW, Sander LC. 2002. "Column selectivity in reversed-phase liquid chromatography III. The physico-chemical basis of selectivity." *Journal of Chromatography A* 961 (2): 217-236.
- Winchester MR, Kelly WR, Mann JL, Guthrie WF, MacDonald BS, Turk GC. 2001. "An alternative method for the certification of the sulfur mass fraction in coal Standard Reference Materials." *Fresenius' Journal of Analytical Chemistry* 370 (2-3): 234-240.
- Wineland DJ, Barrett M, Britton J, Chiaverini J, DeMarco B, Itano WM, Jelenkovic B, Langer C, Leibfried D, Meyer V, Rosenband T, Schatz T. 2003. "Quantum information processing with trapped ions." *Philosophical Transactions. Series A, Mathematical, Physical, and Engineering Sciences* 361 (1808): 1349-1361.
- Winkel P, Zhang NF. 2005. "Effect of uncertainty components such as recalibration on the performance of quality control charts." *Scandinavian Journal of Clinical & Laboratory Investigation* 65 (8): 707-719.
- Wise SA, Jinno K, Takeuchi T. 2005. "Advances in separation science." *Analytical and Bioanalytical Chemistry* 382 (3): 533-534.
- Wise SA, Poster DL, Schantz MM, Kucklick JR, Sander LC, de Alda ML, Schubert P, Parris RM, Porter BJ. 2004. "Two new marine sediment standard reference materials (SRMs) for the determination of organic contaminants." *Analytical and Bioanalytical Chemistry* 378 (5): 1251-1264.
- Wise SA, Sharpless KE, Sander LC, May WE. 2004. "Standard Reference Materials to support U.S. regulations for nutrients and contaminants in food and dietary supplements." *Accreditation and Quality Assurance* (9): 543-550.
- Woods MJ, Mitchell P, De Felice P. 2004. "ICRM 2003: radionuclide metrology techniques - Preface." *Applied Radiation and Isotopes* 60 (2-4): 119-121.
- Wu T, Mei Y, Xu C, Beers KL. 2004. "Phase transition of PDMAEMA-b-PEG in aqueous solution dependence on molecular weights and compositions." *Polymeric Materials Science and Engineering* 91 .

Wu WL, Sambasivan S, Wang CY, Wallace WE, Genzer J, Fischer DA. 2003. "A direct comparison of surface and bulk chain-relaxation in polystyrene." *The European Physical Journal. E, Soft Matter* 12 (1): 127-132.

Wu Y, Deng L. 2004. "Ultraslow optical solitons in a cold four-state medium." *Physical Review Letters* 93 (14): 143904.

Wu Z, Inn KG, Lin Z, McMahon CA, Karam LR. 2002. "NIST radiochemistry intercomparison program: a summary of four-year performance evaluation study. National Institute of Standards and Technology." *Applied Radiation and Isotopes: Including Data, Instrumentation and Methods for Use in Agriculture, Industry and Medicine* 56 (1-2): 379-385.

Wu ZY, Inn KGW, Lin ZC, McMahon CA, Karam LR. 2002. "NIST radiochemistry intercomparison program: a summary of four-year performance evaluation study." *Applied Radiation and Isotopes* 56 (1-2): 379-385.

Xiao Y, Barker P. 2003. "Quantum dot probes for human metaphase chromosomes." *American Journal of Human Genetics* 73 (5): 218.

Xiao Y, Barker P. 2004. "Detection of FISH probes with quantum dots." *Journal of Histochemistry & Cytochemistry* 52: S17.

Xiao Y, Barker PE. 2004. "Semiconductor nanocrystal probes for human metaphase chromosomes." *Nucleic Acids Research* 32 (3).

Xiao Y, Barker PE. 2004. "Semiconductor nanocrystal probes for human chromosomes and DNA." *Minerva Biotechnologica* 16 (4): 275-282.

Xiao Y, Telford WG, Ball JC, Locascio LE, Barker PE. 2005. "Semiconductor nanocrystal conjugates, FISH and pH." *Nature Methods* 2 (10): 723.

Xie BS, Dickens SH, Giuseppetti AA. 2002. "Microtensile bond strength of thermally stressed composite-dentin bonds mediated by one-bottle adhesives." *American Journal of Dentistry* 15 (3): 177-184.

Xie RH, Bryant GW, Zhao J, Smith VH, Jr., Di Carlo A, Pecchia A. 2003. "Tailorable acceptor C(60-n)B(n) and donor C(60-m)N(m) pairs for molecular electronics." *Physical Review Letters* 90 (20): 206602.

Xie RH, Bryant GW, Cheung CF, Smith VH, Jr., Zhao J. 2004. "Optical excitation and absorption spectra of C50C110." *The Journal of Chemical Physics* 121 (7): 2849-2851.

Xie RH, Bryant GW, Sun G, Nicklaus MC, Heringer D, Frauenheim T, Manaa MR, Smith VH, Jr., Araki Y, Ito O. 2004. "Excitations, optical absorption spectra, and optical excitonic gaps of heterofullerenes. I. C60, C59N+, and C48N12: theory and experiment." *The Journal of Chemical Physics* 120 (11): 5133-5147.

- Xu HH, Eichmiller FC, Barndt PR. 2001. "Effects of fiber length and volume fraction on the reinforcement of calcium phosphate cement." *Journal of Materials Science. Materials in Medicine* 12 (1): 57-65.
- Xu HH, Quinn JB. 2001. "Whisker-reinforced bioactive composites containing calcium phosphate cement fillers: effects of filler ratio and surface treatments on mechanical properties." *Journal of Biomedical Materials Research* 57 (2): 165-174.
- Xu HH, Quinn JB. 2001. "Effect of silicon carbide whisker-silica heat treatment on the reinforcement of dental resin composites." *Journal of Biomedical Materials Research* 58 (1): 81-87.
- Xu HH, Quinn JB, Takagi S, Chow LC, Eichmiller FC. 2001. "Strong and macroporous calcium phosphate cement: Effects of porosity and fiber reinforcement on mechanical properties." *Journal of Biomedical Materials Research* 57 (3): 457-466.
- Xu HH, Quinn JB. 2002. "Calcium phosphate cement containing resorbable fibers for short-term reinforcement and macroporosity." *Biomaterials* 23 (1): 193-202.
- Xu HH, Quinn JB, Smith DT, Antonucci JM, Schumacher GE, Eichmiller FC. 2002. "Dental resin composites containing silica-fused whiskers--effects of whisker-to-silica ratio on fracture toughness and indentation properties." *Biomaterials* 23 (3): 735-742.
- Xu HH, Quinn JB, Takagi S, Chow LC. 2002. "Processing and properties of strong and non-rigid calcium phosphate cement." *Journal of Dental Research* 81 (3): 219-224.
- Xu HH. 2003. "Long-term water-aging of whisker-reinforced polymer-matrix composites." *Journal of Dental Research* 82 (1): 48-52.
- Xu HH, Quinn JB, Smith DT, Giuseppetti AA, Eichmiller FC. 2003. "Effects of different whiskers on the reinforcement of dental resin composites." *Dental Materials: Official Publication of the Academy of Dental Materials* 19 (5): 359-367.
- Xu HH, Schumacher GE, Eichmiller FC, Peterson RC, Antonucci JM, Mueller HJ. 2003. "Continuous-fiber preform reinforcement of dental resin composite restorations." *Dental Materials: Official Publication of the Academy of Dental Materials* 19 (6): 523-530.
- Xu HH, Quinn JB, Giuseppetti AA. 2004. "Wear and mechanical properties of nano-silica-fused whisker composites." *Journal of Dental Research* 83 (12): 930-935.
- Xu HH, Quinn JB, Giuseppetti AA, Eichmiller FC, Parry EE, Schumacher GE. 2004. "Three-body wear of dental resin composites reinforced with silica-fused whiskers." *Dental Materials: Official Publication of the Academy of Dental Materials* 20 (3): 220-227.
- Xu HH, Quinn JB, Takagi S, Chow LC. 2004. "Synergistic reinforcement of in situ hardening calcium phosphate composite scaffold for bone tissue engineering." *Biomaterials* 25 (6): 1029-1037.

- Xu HH, Simon CG, Jr. 2004. "Self-hardening calcium phosphate composite scaffold for bone tissue engineering." *J Orthop Res* 22 (3): 535-543.
- Xu HH, Simon CG, Jr. 2004. "Self-hardening calcium phosphate cement-mesh composite: reinforcement, macropores, and cell response." *Journal of Biomedical Materials Research A* 69 (2): 267-278.
- Xu HH, Smith DT, Simon CG. 2004. "Strong and bioactive composites containing nano-silica-fused whiskers for bone repair." *Biomaterials* 25 (19): 4615-4626.
- Xu HH, Simon CG, Jr. 2005. "Fast setting calcium phosphate-chitosan scaffold: mechanical properties and biocompatibility." *Biomaterials* 26 (12): 1337-1348.
- Xu HHK, Takagi S, Quinn JB, Chow LC. 2004. "Fast-setting calcium phosphate scaffolds with tailored macropore formation rates for bone regeneration." *Journal of Biomedical Materials Research Part A* 68A (4): 725-734.
- Xu H, Eichmiller FC, Smith DT, Schumacher GE, Giuseppetti AA, Antonucci JM. 2002. "Effect of thermal cycling on whisker-reinforced dental resin composites." *Journal of Materials Science-Materials in Medicine* 13 (9): 875-883.
- Yampolsky LY, Stoltzfus A. 2005. "The exchangeability of amino acids in proteins." *Genetics* 170: 1459-1472.
- Yampolsky LY, Stoltzfus A. 2005. "Untangling the effects of codon mutation and amino acid exchangeability." *Pacific Symposium on Biocomputing*: 433-444.
- Yang SY, Ren WP, Park YS, Sieving A, Hsu S, Nasser S, Wooley PH. 2002. "Diverse cellular and apoptotic responses to variant shapes of UHMWPE particles in a murine model of inflammation." *Biomaterials* 23 (17): 3535-3543.
- Yang X, Toby BH, Camblor MA, Lee Y, Olson DH. 2005. "Propene Adsorption Sites in Zeolite ITQ-12: A Combined Synchrotron X-ray and Neutron Diffraction Study." *The Journal of Physical Chemistry. B, Condensed Matter, Materials, Surfaces, Interfaces & Biophysical* 109 (16): 7894-7899.
- Yildirim T, Gulseren O, Lynn JW, Brown CM, Udovic TJ, Huang Q, Rogado N, Regan KA, Hayward MA, Slusky JS, He T, Haas MK, Khalifah P, Inumaru K, Cava RJ. 2001. "Giant anharmonicity and nonlinear electron-phonon coupling in MgB₂: a combined first-principles calculation and neutron scattering study." *Physical Review Letters* 87 (3): 037001.
- Yildirim T, Ciraci S. 2005. "Titanium-decorated carbon nanotubes as a potential high-capacity hydrogen storage medium." *Physical Review Letters* 94 (17): 175501.
- Yildirim T, Hartman MR. 2005. "Direct observation of hydrogen adsorption sites and nanocage formation in metal-organic frameworks." *Physical Review Letters* 95 (21): 215504.

Yim PB, Goldner LS, Bardo AM, DeJong ES, Marino JP. 2004. "Characterization of fluorescence resonance energy transfer between pairs of fluorophores using a RNA ruler." *Biophysical Journal* 86 (1): 605A-606A.

Yoneda S, Guthrie WF, Bright DS, Khatri CA, Wang FW. 2002. "Effects of hydrolytic degradation on in vitro biocompatibility of poly(d,l-lactic acid)." *Journal of Dental Research* 81: A186.

Yoon HW, Gibson CE. 2002. "Long-term temporal stability of the National Institute of Standards and Technology spectral irradiance scale determined with absolute filter radiometers." *Applied Optics* 41 (28): 5872-5878.

Yoon HW, Gibson CE, Barnes PY. 2002. "Realization of the National Institute of Standards and Technology detector-based spectral irradiance scale." *Applied Optics* 41 (28): 5879-5890.

York GW, Porter BJ, Pugh RS, Roseneau DG, Simac K, Becker PR, Wise SA. 2001. "Seabird tissue archival and monitoring project: protocols for collecting and banking seabird eggs." *NISTIR* 6735.

Yu LL, Vocke RD, Murphy KE, Beck CM. 2001. "Determination of As, Cd, Cr, and Hg in SRM 2584 (trace elements in indoor dust) by high-resolution inductively coupled plasma mass spectrometry." *Fresenius' Journal of Analytical Chemistry* 370 (7): 834-837.

Yue BH, Huang CY, York OH, Nieh M, Katsaras J, Glinka CJ. 2003. "Structures and stability of unilamellar phospholipid vesicles." *Biochemistry* 42 (28): 8612.

Zangmeister CD, Robey SW, van Zee RD, Yao Y, Tour JM. 2004. "Valence electron orbitals of an oligo(p-phenylene-ethynylene)thiol on gold." *Journal of the American Chemical Society* 126 (11): 3420-3421.

Zangmeister RA, Tarlov MJ. 2004. "DNA displacement assay integrated into microfluidic channels." *Analytical Chemistry* 76 (13): 3655-3659.

Zangmeister RA, Tarlov MJ. 2004. "Selective DNA screening in microfluidic channels by electrophoresis through hydrogel matrices." *Proceedings American Institute of Chemical Engineers National Meeting and Conference*: 1941-1948.

Zeisler R. 2004. "New NIST sediment SRM for inorganic analysis." *Analytical and Bioanalytical Chemistry* 378 (5): 1277-1283.

Zhang JZ, Vogel GL, Schumacher G, Harper DS, Barnett ML. 2002. "Effect of essential oil antiseptic mouthrinses on plaque acidogenicity." *Journal of Dental Research* 81: A436.

Zhang JZ, Harper DS, Vogel GL, Schumacher G. 2004. "Effect of an essential oil mouthrinse, with and without fluoride, on plaque metabolic acid production and pH after a sucrose challenge." *Caries Research* 38 (6): 537-541.

- Zhang K, Simon CG, Washburn NR, Antonucci JM, Lin-Gibson S. 2005. "In situ formation of blends by photopolymerization of poly(ethylene glycol) dimethacrylate and polylactide." *Biomacromolecules* 6 (3): 1615-1622.
- Zhang K, Lin-Gibson S, Simon Jr CG, Antonucci JM, Washburn NR. 2004. "Biocompatible polymer blends derived from the photopolymerization of polyethylene glycol dimethacrylate-polylactide mixtures." *Polymer Preprints* 45(2): 419-420.
- Zhang K, Washburn NR, Simon CG. 2005. "Cytotoxicity of three-dimensionally ordered macroporous sol-gel bioactive glass (3DOM-BG)." *Biomaterials* 26 (22): 4532-4539.
- Zhang Y, Lawn B. 2004. "Long-term strength of ceramics for biomedical applications." *Journal of Biomedical Materials Research Part B-Applied Biomaterials* 69B (2): 166-172.
- Zhang Y, Lawn BR, Rekow ED, Thompson VP. 2004. "Effect of sandblasting on the long-term performance of dental ceramics." *Journal of Biomedical Materials Research Part B-Applied Biomaterials* 71B (2): 381-386.
- Zhang Y, Pajares A, Lawn BR. 2004. "Fatigue and damage tolerance of Y-TZP ceramics in layered biomechanical systems." *Journal of Biomedical Materials Research Part B-Applied Biomaterials* 71B (1): 166-171.
- Zhang Y, Lawn BR. 2005. "Fatigue sensitivity of Y-TZP to microscale sharp-contact flaws." *Journal of Biomedical Materials Research Part B-Applied Biomaterials* 72B (2): 388-392.
- Zhang Y, Song JK, Lawn BR. 2005. "Deep-penetrating conical cracks in brittle layers from hydraulic cyclic contact." *Journal of Biomedical Materials Research Part B-Applied Biomaterials* 73B (1): 186-193.
- Zhang Y, Xu HHK. 2005. "Effects of synergistic reinforcement and absorbable fiber strength on hydroxyapatite bone cement." *Journal of Biomedical Materials Research Part A* 75A (4): 832-840.
- Zhang YH, Dunn ML, Drexler ES, McCowan CN, Slifka AJ, Ivy DD, Shandas R. 2005. "A microstructural hyperelastic model of pulmonary arteries under normo- and hypertensive conditions." *Annals of Biomedical Engineering* 33 (8): 1042-1052.
- Zhao H, Hu XZ, Bush MB, Ford C. 2001. "Contact damage analysis of layered dental composites." *Journal of Dental Research* 80 (4): 980.
- Zhou J, Deyhim A, Krueger S, Gregurick SK. 2005. "LORES: Low resolution shape program for the calculation of small angle neutron scattering profiles for biological macromolecules in solution." *Computer Physics Communications* 170: 186.
- Zhou J, Krueger S, Gregurick S. 2005. "Theoretical prediction of SANS profiles of nucleic acids in solution from MD simulations." *Biophysical Journal* 88 (1): 513A.

- Zhou J, Krueger S, Gregurick SK. 2005. "A coarse graining approach to determine nucleic acid structures from small angle neutron scattering profiles in solution." *Nucleic Acids Research* 33 (19): 6361-6371.
- Zimmerman BE, Kubicek GJ, Cessna JT, Plascjak PS, Eckelman WC. 2001. "Radioassays and experimental evaluation of dose calibrator settings for F-18." *Applied Radiation and Isotopes* 54 (1): 113-122.
- Zimmerman BE, Unterweger MP, Brodack JW. 2001. "The standardization of Lu-177 by 4 pi ss liquid scintillation spectrometry with H-3-standard efficiency tracing." *Applied Radiation and Isotopes* 54 (4): 623-631.
- Zimmerman BE, Cessna JT, Dorton JA. 2002. "Experimental investigation of dose calibrator response for I-125 brachytherapy solutions contained in 5 mL plastic syringes and 2 mL conical glass v-vials as a function of filling mass." *Medical Physics* 29 (7): 1547-1555.
- Zimmerman BE, Cessna JT, Unterweger MP. 2002. "The standardization of W-188/Re-188 by 4 pi beta liquid scintillation spectrometry with the CIEMAT/NIST H-3-standard efficiency tracing method." *Applied Radiation and Isotopes* 56 (1-2): 315-320.
- Zimmerman BE, Cessna JT, Millican MA. 2004. "Experimental determination of calibration settings for plastic syringes containing solutions of Y-90 using commercial radionuclide calibrators." *Applied Radiation and Isotopes* 60 (2-4): 511-517.
- Zimmerman BE, Colle R, Cessna JT. 2004. "Construction and implementation of the NIST triple-to-double coincidence ratio (TDCR) spectrometer." *Applied Radiation and Isotopes* 60 (2-4): 433-438.
- Zohar O, Heimer TA, Tandon A, Heilweil EJ, Alkon DL. 2002. "Phosphorescence lifetime of Eu-TTA as a biological temperature probe." *Biophysical Journal* 82 (1): 492A.
- Zullo SJ, Srivastava S, Looney JP, Barker PE. 2002. "Nanotechnology: Emerging developments and early detection of cancer - A two-day workshop sponsored by the National Cancer Institute and the National Institute of Standards and Technology, August 30-31 2001, on the National Institute of Standards and Technology Campus, Gaithersburg, MD, USA." *Disease Markers* 18 (4): 153-158.

